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BEA, they offer the only platform
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and is easier to use. I acknowledge
that I am accountable for my
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take the fall for this decision.**

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We've been listening to what you, our customers, have to say about the way the software industry does business. And frankly, some of it couldn't be repeated in print. You've been frustrated by long-term agreements. You've been disenchanted by the lack of options when it comes to software licensing. And, most of all, you've been annoyed that no one's been listening to any of your complaints.

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.....

Flexible software licensing is about choice.
It's about control.
It's about time.

.....

We've heard back from many of our customers and they're thrilled with the changes. From global Fortune 500® companies to smaller organizations, the response has been overwhelmingly positive. Some of the comments we've received include "flexible licensing is a tremendous tool," "a huge win for CA customers" and "clearly demonstrates that CA is an extremely innovative, flexible and customer-focused company."

But the changes don't stop with flexible licensing. That's just one part of our renewed focus on you, our customers. We've also increased our responsiveness to your needs. And we've even increased our focus on internal research and development, furthering our commitment to creating the most innovative business software solutions in the market.

Innovations in licensing, increased customer responsiveness and product development are just a few more ways we're staying well ahead of the rest of the pack in the software industry. Contact us at ca.com/flexselect today to find out more. We think you'll be pleased with what you see. If not, let us know. And we'll do something about it.

FlexSelect Licensing™  Computer Associates®

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ONLINE

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You're Not Crazy

DEVELOPMENT: Columnist Linda Hayes comes to understand the chaos that frustrates developers — and suggests ways to tame it. @ [Qwiklink 400670](#)

A Look at the Upcoming Panther Server OS

MACINTOSH: Technology writer Ryan Fess takes a look at some of the changes and improvements coming in the next version of Mac OS X Server. @ [Qwiklink 400657](#)

Calculating Security ROI Is Tricky Business

SECURITY: How do you prove that those security projects you want to do are worth the cost? Columnist Marcia J. Wilson offers step-by-step advice on how to figure out the return on investment. @ [Qwiklink 397728](#)

Data Security in a Converged Network

SECURITY: In Part 2 of this three-part series, Siemens' Joel A. Popar talks about some of the security issues of IP phones and their effect on firewalls. @ [Qwiklink 390695](#)

The Mean Season

STORAGE: In south Florida, the Mean Season brings unrelenting heat and humidity and a spike in violent crime. In the storage market, the Mean Season is now, when vendors can't sell as much as a Gigabit Ethernet interface card. @ [Qwiklink 400681](#)

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AT DEADLINE

EMC to Upgrade Symmetrix Arrays

Expanding its Symmetrix DMX high-end disk array line, EMC Corp. this week will announce a DMX3000 model that doubles maximum raw capacity to 64TB. Hopkinton, Mass.-based EMC also plans to add native support for FCi, Gigabit Ethernet and iSCSI connectivity to the DMX line and enable the arrays to do long-distance data replication. (For more details, visit our Web site: Quick-Link 40186.)

Oracle Ups Tab For PeopleSoft . . .

Oracle Corp. said in a regulatory filing that the price it would have to pay to buy PeopleSoft Inc. has risen to \$7.5 billion as a result of PeopleSoft's acquisition of Denver-based J.D. Edwards & Co. Oracle had previously offered \$6.3 billion for Pleasanton, Calif.-based PeopleSoft. It said the increase is needed to cover new shares that PeopleSoft is issuing as part of the J.D. Edwards deal.

. . . and Warnings of Application Flaws

Oracle also issued a warning about two "high-risk" security holes in its E-Business Suite VII applications. The company said attackers could use the vulnerabilities to run malicious code on servers or view system configuration data. It released patches designed to address both flaws plus a third hole that affects its databases and was rated a low risk.

Short Takes

John McKinley, who resigned as chief technology officer at MERLynch & CO. in January, has taken a similar job at AMERICA ONLINE Inc. . . . Separately, Merrill Lynch said it's replacing its telephone gear made by CISCO SYSTEMS Inc. with equipment from Blackline Ridge, N.J.-based ANITA INC. that supports both circuit and packet switching.

Certifications Needed To Prevent Grid Gridlock

Lack of standards, fuzzy definition of term pose hurdles

BY PATRICK THIBODEAU
SOCIETY

IBM, SUN MICROSYSTEMS Inc. and Hewlett-Packard Co. promised last week to back interoperability standards for grid computing. But just what constitutes a grid-enabled product remains open to question.

The absence of a single definition of grid computing is a key problem cited at a grid conference held by The Open Group here last week. Grid computing broadly describes an environment in which applications, hardware and networks combine to enable information to flow seamlessly, be it through a department, across an enterprise or around the world. But it can mean different things in different vertical industries. For instance, some companies may approach it as a collaboration vehicle, others as a means of transaction processing.

Grid computing is at least two years away and will have opened then only if vendors selling proprietary deal ends don't hijack it, proponents say. The Open Group may try to stop that from happening by setting up a certification program to identify products that meet interoperability goals, said Allen Brown, CEO of the Open Group. The organization, composed of representatives from large vendor and user companies, is dedicated to promoting systems interoperability.

"What we would hope is the grid community [would be] able to define what set of specifications it is that [constitutes] a grid platform," Brown said. A certification program is possible if grid "becomes more tangible than it is now," he added.

The top large systems vendors say they're interested in following standards.

"What's really important — and frankly an encouraging sign in this industry — is that everybody, for the most part, is coming on board" to develop grid standards, said Thomas Hawk, IBM's general manager of grid computing. "Yes, we all come from competing companies. Every day, we try to bush each other's brains out in the marketplace. But . . . we also collaborate as it relates to driving industry standards."

"What is absolutely critical

is that it's an open-source, community effort," said Greg Asfalk, chief scientist at HP. "If there are multiple, proprietary grids, we all lose."

Sun's general manager, director, Wolfgang Gentzsch, also spoke of the need for standards.

Grid computing emerged in the mid-1990s as a way to harness computing power for high-performance scientific and engineering applications. Early adopters tend to be power users such as David Levine, CEO of Butterfly Net Inc. in Martinsburg, W.Va. Levine, who used grid technologies to

A Grid by Any Other Name . . .

Thomas Hawk, head of IBM's grid computing program, last week defended and explained the concept of the technology in an interview with Computerworld's Patrick Thibodeau and Robert L. Mitchell.

Your vision of grid computing as a universal virtualization layer for a broad range of enterprise IT service cases such a wide net that it's hard not to be skeptical. How do you defend it? To me, it's all about the open standards integration and acceptance. If we don't graduate to open standards, then we will struggle. Companies buying technology have been clamoring for this for a while. They're being driven as hell and don't want to take it any more, and it's being driven by a level of complexity that they can't deal with.

Should users be pushing vendors to adopt grid standards? Absolutely. It is fascinating to me how little power the aggregation of the customer base believes they have.

They have all of the power. Customers don't realize the clout and the power they have.

A lot of companies are heavily into virtualization to optimize utilization of their IT resources. If they are already accomplishing that, why bother with grid computing? If they are accomplishing that, then we are doing grid. If they are doing virtualization, it is grid. Maybe it's a early instance of grid.

The biggest grid advantage are users. When we talk to users, no one is saying they need grid systems to solve business problems. Are they wrong? A lot of the virtualization activities are taking place. I think the exploitation of the infrastructure across heterogeneous platforms is taking place, whether or not people are calling that grid — some are, some aren't. But when you talk about the client base that we have in the Fortune 2,000, there's a pretty healthy understanding of and knowledge of grid. ■

What is absolutely critical is that it's an open-source, community effort. If there are multiple, proprietary grids, we all lose.

GREG ASFALK, CHIEF SCIENTIST,
HEWLETT-PACKARD CO.

develop a PlayStation online gaming system for Sony Computer Entertainment Inc., said the grid specifications developed by the Globus Project, a joint initiative of the University of Chicago and the University of Southern California, are ready for use. But he said implementing them "is really going to require a culture change" by IT managers in how they approach system implementations. Grids make it possible for users to tap all the resources available to them, and "systems are rarely used to capacity," he said.

But Levine also said it may be five years before vendors release enough grid-enabled products to simplify business implementations. "What the applications really need to do is start conforming to some of the standards," he said.

But convincing a broader base of users of the need for grid technology won't be easy. One attendee from a large user company, speaking on condition of anonymity, said grid backers need to provide a compelling business case and show whether the process can be effectively managed and kept secure.

The vendors are beginning to release technology designed for grid use. IBM last week said it has added grid computing capabilities to its newest version of WebSphere that allow clusters of servers to operate as a single environment [QuickLink 40059].

Ian Foster, senior scientist at Argonne National Laboratory in Illinois, said potential users need to keep abreast of grid developments and insist on open approaches as the technology evolves. ■

IT Key to Columbia Investigation

GPS, data replication technology aid in search for debris and logging of data

BY BOB BREWIN

When the space shuttle Columbia disintegrated over East Texas six months ago this Friday, NASA began an unprecedented effort to use IT to locate and log debris scattered over nearly 1,000 square miles.

According to Dave Whittle, chairman of the National Aeronautics and Space Administration's Mishap Investigation Team at the Johnson Space Center in Houston, by the time NASA wound down its debris-collection effort in May, searchers had collected 84,000 pieces of debris—roughly 40% of the shuttle. Ninety-eight percent of that debris was "geo-located"—found by means of Global Positioning System (GPS) technology. And information about the debris was stored in a Microsoft SQL Server database.

A Team Effort

The Environmental Protection Agency handled the geo-location and data logging because of its responsibility for hazardous material cleanup. Don White, the EPA's on-scene coordinator for the Columbia debris recovery at the agency's field office in Dallas, said NASA tapped the EPA and the contractor it uses for IT support on major environmental cleanup projects—Weston Solutions Inc. in West Chester, Pa.—to handle debris data collection. Weston had developed a field data collection program running on Hewlett-Packard Co. iPaq Pocket PCs, according to Brad Morgan, EPA project manager on Weston's IT project.

By the time the data collection effort was finished, Morgan said, Weston and the EPA were fielding between 250 and 280 data collection teams a day, each equipped with an iPaq and a GPS receiver. Roughly 40% of the iPaqs featured an integrated GPS receiver, which made entry of

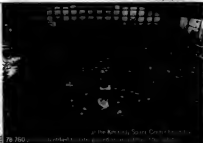
geo-location data automatic.

At the end of each day, the EPA teams would synchronize their data with a SQL Server database set up by Weston. Kristin Ingram, chief of the information sciences branch at the Johnson Space Center, said the information from the EPA database was merged with a NASA database that includes a shuttle parts list. The data was then stored in the Shuttle Interagency Debris Database (SIDDD). The SIDDD runs on two Dell Inc. 8450 servers, each

housing four Pentium III Xeon chips with 2GB of RAM and 18GB of storage. Additional storage was provided by dual Dell PowerVault systems with a capacity of 1TB each.

Data replication between the EPA and the SIDDD SQL Server databases was done through bulk merge replication rather than by transaction. Ingram said she found the process frustrating, since SQL Server proved to be "can-tankerous" in merge mode.

Ingram said SIDDD played a key role in refining the debris search on a daily basis by showing patterns in the distribution of key parts within the



debris field. Those patterns helped narrow the search for Columbia's data recorder—the equivalent of a commercial airline's "black box."

NASA's earth science information directorate at the Space Science Center in Hancock County, Miss., helped turn the SIDDD data into visual informa-

tion with geographical information systems (GIS) technology, said Kirk Sharp, a GIS expert at Stennis.

Sharp said Stennis used GIS software from Environmental Systems Research Institute Inc. in Redlands, Calif., to create visual representations of the debris field. ■

California Users Eager to Cash In On \$1.1B Microsoft Settlement

For some, expense of documenting usage may outweigh benefits

BY PATRICIA THORNDIAE
WASHINGTON

California businesses stand to collect handsomely from Microsoft Corp.'s \$1.1 billion class action antitrust settlement, if they can document ownership of eligible products.

The settlement, which received preliminary court ap-

proval last week, followed a class action suit alleging that Microsoft overcharged California customers (QuickLink 3/27/01). The case was settled without admission of liability.

The plaintiffs' attorneys are finalizing claims forms that will make it possible for individual and enterprise volume license holders to collect. Eugene Crew, whose law firm, Townsend and Townsend and Crew LLP in San Francisco, is the lead counsel in the case,

expects 80% of the eligible funds to go to businesses, with some collecting many thousands of dollars.

But the issue for IT managers is whether the potential benefit is worth the expense of digging out old records of, say, Windows 3.1 usage.

"It could well be that coming up with the documentation to get the voucher could cost them more than the voucher might be worth," said Rob Enright, an analyst at Giga Information Group Inc. in Cambridge, Mass.

Rick Peltz, CIO at Marcus & Millichap Real Estate Investment Brokerage Co. in Encino, Calif., expects the settlement to yield about \$18,000 for his company. Peltz said his record keeping is good and he will submit the necessary claim forms. "Times are hard, and budgets are tight," he said.

But Peltz's research into the potential settlement benefits came only after he was contacted by Computerworld for his comments. He said he believes many IT managers are unaware of the settlement.

"We have thousands of licenses that may be at stake,

and we're very interested," said Scott Stennis, chief technology officer at Mercury Insurance Group in Brea, Calif. Fortunately, his 350-employee company has used the same desktop supplier for years, so getting the records will be relatively easy, he said.

But Microsoft's may end up getting some settlement money back. Schieman said a liability use of the funds will be to buy upgrades of Office and other Microsoft software that may otherwise have been delayed.

Accorded to Crew, business owners will have to provide license identification numbers, but the claim form will include a "help box" that, once checked, obligates Microsoft to search its licensing records.

Jim Dentler, a Microsoft spokesman, confirmed that the company will provide assistance to the extent possible. "I can't say our records are completely comprehensive, but we have records, and if [businesses] check the help box, we will respond," he said.

Any of the \$1.1 billion that goes unclaimed will be used to buy computer products and services for California public schools that serve a high percentage of students from underprivileged households. Legal costs weren't deducted from the settlement; Microsoft is paying those separately. ■

FAQ

Where can I get a claim form?
The Microsoft settlement claim forms will be posted at
www.microworld.com/faq

What products are eligible? Microsoft products licensed and purchased for use in California from Feb. 18, 1995, to Dec. 31, 2002.

Will Microsoft help me? Business users will be able to ask Microsoft to check its licensing records, but the company isn't guaranteeing that its records will be complete.

How much will Microsoft pay me? \$30 for each copy of Windows or DOS; upgrades on the same machine are also eligible. \$20 for Office, \$5 for Word and \$20 for Excel if purchased separately.

Will I get cash? No. The award is a voucher that can be used to purchase hardware or software from any vendor.

When does it end? The cutoff date for submitting claims will likely be mid-March, 2004.

BRIEFS

Siebel Plans More Workforce Cuts

Siebel Systems Inc. said it will lay off another 400 workers following steep drops in both revenue and profits during the second quarter. The new cutbacks will reduce Siebel's workforce by 8% and leave it with about 5,000 employees. The San Mateo, Calif.-based vendor of CRM applications also plans to migrate more software design and testing work to offshore sites.

Microsoft Drops Liability Limits

Microsoft Corp. disclosed that it has dropped software licensing provisions that limited the company's financial liability if customers were sued in connection with its products. Microsoft said the liability limits were a sticking point in contract negotiations with some users, although it added that it's not aware of any such lawsuits. The change took effect in the U.S. in March.

Amazon to Add Hosted IT Systems

Online retailer Amazon.com Inc. said it plans to augment its existing data centers by Seattle and Chantilly, Va., by setting up additional IT systems that Equinix Inc. in Foster City, Calif., will host. The deal's financial terms weren't disclosed. Equinix noted that neither it nor any network service providers will be able to access the data that's stored by Amazon.com at the hosting facility.

Short Takes

NOVELL Inc. said NetWare 6.5, a key steppingstone in its long-term plan to make all of NetWare's functionality available on Linux systems, is due to ship Aug. 15. . . . BAAN INTERNATIONAL, AL BV in Barendrecht, Netherlands, became a unit of Chicago-based SSA GLOBAL TECHNOLOGIES INC. as part of a buyout deal they signed in June.

MARK HALL • ON THE MARK

Outsourcing: Megatrend Or Megamenace ...

... depending on which industry CEO you happen to be chatting with. In the case of Peter Boni, who runs Lexington, Mass.-based Surebridge Inc., a successful application and managed services provider, he sees the outsourcing of IT jobs overseas as a "megatrend" that no amount of hand-wringing by IT pros can stop. **Think textile mills. Think shoemakers. Now think IT.** "It's a hostile environment out there," Boni observes. Surebridge has data centers at its headquarters and across the state

line in New Hampshire but is planning more operations outside U.S. borders to help manage its own costs. Megatrends may be real, but they're not always right or good. At least that's the view you'll hear from Keith Franklin, CEO of Empowered Software Solutions Inc., a Burr Ridge, Ill., consultancy specializing in .Net development. "We have taken on failed offshore projects because people [overseas] did not know what they were doing with .Net," he explains. Franklin says the most recent post-offshore blip his company performed was on a .Net program that lacked an application architecture and was cluttered with unnecessary and sloppy code. For example, he says the offshore-built code had 387 pages of Active Server Pages .Net extensions, which his crew cut almost in half. Franklin doesn't

argue with Boni's megatrend conclusion, but not necessarily because it's a sound business strategy. "A high-level manager who sent a project overseas is not likely to publicize that it has failed," he points out.

In other words, the job-hacking manager will be more worried about saving his own paycheck than yours. . . . Microsoft Corp. has avoided the painful process of having to eliminate jobs while adding data centers for its Xbox Live group overseas by installing loads of servers, routers and other devices and then managing them all remotely from its U.S. headquarters. Nicky Pike, operations program manager for Xbox, says he designed the data centers in Japan and England so that even tasks such as hard power-on-and-off routines can be handled from the main data center in the U.S. Systems administra-

Starting today, you'll see the CRM software from Mountain View, Calif., can use the state of their company's sales efforts in a single integrated dashboard view. Although any data collected by UpSight can be added to the dashboard, not all of the data will include sales by region or person. Inventory items and the top-level data. In October, the company plans to release a version that's integrated with Ridge Notes.

tors in Redmond can sit at their PCs and on a single screen have views of a variety of machines around the world, making it unnecessary to hire local IT staff. "We manage the global network 24/7 with four people here in three shifts," Pike says. . . . Integral to Microsoft's remote administration of the global Xbox infrastructure is keyboard, video and monitor technology from Avocet Corp. in Huntsville, Ala. So Pike and others will be happy to know that Avocet will be upgrading its systems in Q1 2004. One of the improvements will be to increase the number of servers a sysadmin can be authenticated to at one time. Now it's limited to only one, but with next year's release, a single sign-on can authenticate a user to groups of servers. D5View, the graphical user interface (GUI) used to manage remote systems, will also get a major overhaul, expanding the number of devices the internal database can handle and boosting security and performance. . . . By the end of next month, Stratify Inc. in Mountain View, Calif., will ship Version 3.0 of its Stratify Discovery system, an application used to manage the goals of unstructured data inside organizations.

The new release replaces the old Win-Stratify GUI with a browser and adds filtering techniques to eliminate duplication of information in the data store. Among the many other improvements are "crawl sources" that comb the Web for relevant data of interest and "personalized discovery" that gives users wizard tools to help them categorize and publish unstructured information. The upgrade adds more analytical features, such as a "heat map" that can show, for example, which topics have generated the most documents. In many places these days, a heat-map view of outsourcing documents would be one hot topic, indeed. ■

Users Get More Tape Storage Capabilities

Quantum upgrades SDLT tape drive line

BY LUCAS MERRIAN

Quantum Corp. last week said it is now offering a firmware upgrade to its Super Digital Linear Tape (SDLT) line of tape drives that can do predictive diagnostics and error analysis, a move that's part of a trend to put more intelligence into automated tape storage products.

Users can download the new DETSage software from Quan-

tum's Web site for use with DLT and SDLT tape drives they already have. The company will ship its SDLT 600 drives in the fourth quarter.

DLTSage is designed to help IT managers ensure that data backups are completed and provide advance warnings of potential problems, such as SDLT tape drives and cartridges nearing the end of their lives.

Bob Abraham, an analyst at market research firm Freeman Reports in Ojai, Calif., said that increasing the amount of

intelligence in tape subsystems and libraries has become the mantra of many vendors.

The goal, he added, is to more tightly integrate tape storage products with data center infrastructures to ease management of server backups and the archiving of corporate data.

For example, Advanced Digital Information Corp. (ADIC) this month began shipping a tape library called the Scalar 12000. Redmond, Wash.-based ADIC said the 12000 eliminates the need for users to in-

stall external library-control servers and offers advanced performance-monitoring tools, system readiness checks, built-in diagnostics and policy-based alert capabilities.

Jeff Laughlin, director of strategy for automated tape solutions at Storage Technology Corp. in Louisville, Colo., said his company plans to integrate its BladeStore disk-to-disk backup server with its TowerStream tape libraries, although doing so will take up to two years. The combination would save floor space and help eliminate network issues that can affect backups, Laughlin said. ■

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argue with Boni's megatrend conclusion, but not necessarily because it's a sound business strategy. "A high-level manager who sent a project overseas is not likely to publicize that it has failed," he points out. In other words, the job-hacking manager will be more worried about saving his own paycheck than yours. • Microsoft Corp. has avoided the painful process of having to eliminate jobs

while adding data centers for its Xbox Live group overseas by installing loads of servers, routers and other devices and then managing them all remotely from its U.S. headquarters. Nicky Pike, operations program manager for Xbox, says he designed the data centers in Japan and England so that even tasks such as hard power-on-and-off robots can be handled from the main data center in the U.S. Systems administra-

tors in Redmond can sit at their PCs and on a single screen have views of a variety of machines around the world, making it unnecessary to hire local IT staff. "We manage the global network 24/7 with four people here in three shifts," Pike says. • Integral to Microsoft's remote administration of the global Xbox infrastructure is keyboard, video and monitor technology from Avocet Corp. in Huntsville, Ala. So Pike and others will be happy to know that Avocet will be upgrading its systems in Q3 2004. One of the improvements will be to increase the number of servers a sysadmin can be authenticated to at one time. Now it's limited to only one, but with next year's release, a single sign-on can authenticate a user to groups of servers. DSVision, the graphical user interface (GUI) used to manage remote systems, will also get a major overhaul, expanding the number of devices the internal database can handle and becoming a more icon-driven interface. • By the end of next month, Stratify Inc. in Mountain View, Calif., will ship Version 3.0 of its Stratify Discovery System, an application used to manage the goals of structured data inside organizations. The release replaces the old Windows GUI with a browser and adds filtering techniques to eliminate duplication of information in the data store. Among the many other improvements are "crawl sources" that interest users "personalized discovery" that gives users wizard tools to help them categorize and publish unstructured information. The upgrade adds more analytical features, such as a "heat map" that can show, for example, which topics have generated the most documents. In many places these days, a heat-map view of outsourcing documents would be one hot topic, indeed. ▀



Users Get More Tape Storage Capabilities

Quantum upgrades SDLT tape drive line

BY LUCAS MEARIAN

Quantum Corp. last week said it is now offering a firmware upgrade to its Super Digital Linear Tape (SDLT) line of tape drives that can do predictive diagnostics and error analysis, a move that's part of a trend to put more intelligence into automated tape storage products.

Users can download the new DLTStage software from Quan-

tum's Web site for use with DLT and SDLT tape drives they already have. The company will ship its SDLT 600 drives in the fourth quarter. DLTStage is designed to help IT managers ensure that data backups are completed and provide advance warnings of potential problems, such as SDLT tape drives and cartridges nearing the end of their lives.

Bob Abraham, an analyst at market research firm Freeman Reports in Ojai, Calif., said that increasing the amount of

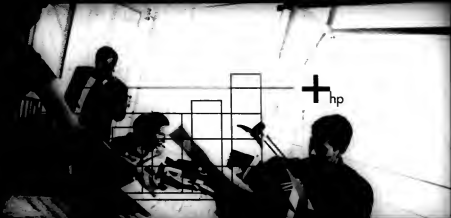
intelligence in tape subsystems and libraries has become the mantra of many vendors.

The goal, he added, is to more tightly integrate tape storage products with data center infrastructures to ease management of server backups as the archiving of corporate data.

For example, Advanced Digital Information Corp. (ADIC) this month began shipping a tape library called the Scalar 2000. Redmond, Wash.-based ADIC said the 12000 eliminates the need for users to lo-

stal external library-control servers and offers advanced performance-monitoring tools, system readiness checks, built-in diagnostics and policy-based alert capabilities.

Jeff Laughlin, director of strategy for automated tape solutions at Storage Technology Corp. in Louisville, Colo., said his company plans to integrate its iNodeStore disk-to-disk backup server with its Powderhorn tape libraries, although doing so will take up to two years. The combination would save floor space and help eliminate network issues that can affect backups, Laughlin said. ▀



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Buyouts Surge Among Data Analysis Vendors

Hyperion, Business Objects acquire rivals; further consolidation expected

BY MARC L. BONDINI

THE NUMBER of independent business-intelligence software vendors continued to shrink last week, when Hyperion Solutions Corp. announced plans to buy query and reporting tools maker Brio Software Inc.

The deal between Sunnyvale, Calif.-based Hyperion and Santa Clara, Calif.-based Brio came just five days after Business Objects SA announced on July 10 that it had agreed to acquire Crystal Decisions Inc.

Analysts said the consolidation moves will likely accelerate as vendors look to offer more complete suites of data analysis products, partly to fend off growing competition from Microsoft Corp.

Such mergers can both help and hurt corporate users, said Mike Schiff, an analyst at Current Analysis Inc. in Sterling, Va. Although the acquisitions may give users a single vendor to deal with in areas such as product support, they could reduce customers' bargaining power by limiting their ability to shop around, Schiff said.

He added that after buyouts, vendors typically weed out the less successful products they have acquired, which could affect the companies that depend on those technologies.

That possibility is a concern for Charles Castleberry, assistant director of IT architecture at Fox Filmed Entertainment in Los Angeles. Fox uses tools developed by Palo Alto, Calif.-based Crystal Decisions for decision support.

Merger Details

BUSINESS OBJECTS/ CRYSTAL DECISIONS

• Purchase price: \$250 million
in cash and stock
• Combined annual revenue: \$790 million
• Total number of employees: 2,885

HYPERION/BRIO

• Purchase price: \$140 million
in cash and stock
• Combined annual revenue: \$600 million
• Total number of employees: 2,700

"I have yet to see a merger of companies making similar products in which one or both products weren't significantly affected," Castleberry said. "Usually, either the product line in the purchased company is phased out, or the prod-

ucts are merged together in some fashion."

Buz Business Objects user David Rewerts, an IT systems analyst at Principal Financial Group Inc. in Des Moines, said the combined resources of Business Objects and Crystal Decisions would most likely result in better efficiencies of scale and improved research and development efforts.

John Olsen, president and chief operating officer at Paris-based Business Objects, said there are no plans to phase out any applications or to delay rollouts of new products. He noted that Crystal Decisions' tools are used to design reports for end users, whereas Business Objects' applications are tailored for power users who want to format their own queries and do extensive slicing and dicing of data.

A spokeswoman for Hyperion said that the company will disclose more information about its product plans in the coming weeks, although she noted that Hyperion's own applications will remain intact. Hyperion did say that it's dropping a reseller deal with Crystal Decisions and will immediately start

offering Brio's tools.

Both acquisitions are expected to be completed in the fourth quarter, Schiff said that Brio, which last week reported a first-quarter loss of \$2.1 million on revenue of \$24.8 million, was financially troubled and in need of rescue by another vendor. Crystal Decisions is in much better financial shape, he noted. ■

Corrections

The "Phishing Storage Security Holes" story in the July 21 Technology section inaccurately described an appliance sold by Vermetec Inc. in Santa Clara, Calif. The product supports storage-area networks plus network-attached and direct-attached storage devices, and it provides high-speed data encryption at the file system level on a file-by-file basis.

A story in the June 23 issue's News section ("Survey Shows Summer IT Moves") incorrectly listed the company that IT executive Joyce Young works for. Young is now CIO at CP Nello, a Wilmington, Del.-based maker of thickening and stabilizing products used by food manufacturers.

i2 Completes Reaudit, But Obstacles Remain

Software vendor faces SEC probe, purchase delays

BY MARC L. BONDINI

Worried users of i2 Technologies Inc.'s supply chain management applications got a few reasons to be hopeful last week, when the struggling company announced that it had finished reauditing its financial results for the last five years and reported a \$41.3 million first-quarter profit.

Sanjay Sidhu, i2's chairman and CEO, said he's optimistic that the completion of the reaudit process will help the Dallas-based vendor start closing new business relations-

ing deals with users that have been delaying purchases. It also could enable i2 to get its stock listed on the Nasdaq exchange again, Sidhu added.

But i2 will face some big obstacles. An investigation of its accounting practices by the U.S. Securities and Exchange Commission is ongoing, and i2 said that its second-quarter results likely will be break-even at best because of a steep drop in revenue, both sequentially and year-to-year.

"A lot of customers have been sitting on the fence waiting to see what would happen," said J.R. Hoyt, supply chain project director at Whirlpool Corp. in Benton Harbor, Mich. "So i2 has got to

demonstrate enough confidence to get them to move off the fence."

Whirlpool is now a bit more at ease about i2's future, Hoyt said, although he added that the appliance maker was "not terribly uncomfortable" to begin with. But if i2 doesn't produce some revenue growth in the next few quarters, "we'll all do some soul-searching," he said.

Both the completion of the reaudit and i2's profitable first quarter are reassuring, said Dick Scherer, vice president of IT at The Clarks Companies NA, adding that i2 executives should now be able to focus more on enhancing the company's software.

Clarks, a shoemaker in Newton Upper Falls, Mass., plans to upgrade to the vendor's latest release, i2 Six, next year, and Scherer doesn't expect that to change. "As long as the

software is stable and support is reliable, we won't defer the upgrade," he said.

The reaudited results that i2 released were far out of line with what it had originally reported for the period from 1998 through last year. Cumulative revenue for those years was reduced by more than \$350 million, although i2 said that about two-thirds of that amount may be reinstated in the future (see chart).

i2's New Math

Revenue previously:

\$27.3 million

Revenue deferred:

\$250.2 million

Total revenue reductions:

\$262.9 million

Consolidated income:

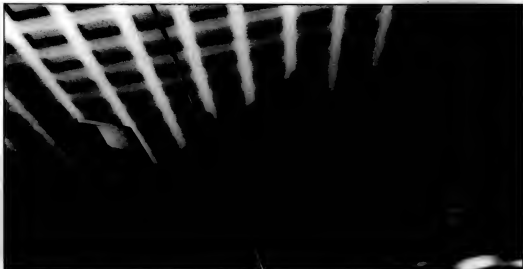
Not in income

\$207.1 million

Sidhu said the company's \$441 million in cash holdings weren't affected by the reaudit. But he acknowledged that the process had an impact on both i2 and its users. "Our customers were asked a lot of questions internally by their own people," Sidhu said.

Karen Peterson, an analyst at Gartner Inc., said users who have put off upgrades to i2 Six should be more confident that i2 will still be around to support them. But, she added, the company "has done little to convince the broader buying public that i2 is a 'safe' solution." Peterson advised prospective new customers to buy i2's software in increments to minimize their risks.

The software vendor also said that it's implementing a variety of new internal accounting controls. It plans to seek a reinstatement hearing next month with Nasdaq. ■



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IT Deficiencies Blamed in Part For Pre-9/11 Intelligence Failure

Report cites lack of central database, poor IT support for FBI, NSA agents

BY DAN VERTON
WASHINGTON

An antiquated IT infrastructure and turf battles among federal agencies resulted in a lack of information sharing and analysis that contributed to the national security community's failure to head off the Sept. 11, 2001, terrorist attacks.

That was a key finding of the long-awaited joint inquiry by the House and Senate Select Committees on Intelligence into the 9/11 attacks, the results of which were released in an 858-page report last week.

The report cites the failure of government agencies, particularly the FBI and the National Security Agency (NSA), to ensure that their agents had adequate IT support. The absence of a centralized counterterrorism database drew particular criticism.

"The FBI is a member of the intelligence community," the report quotes an FBI agent as saying. "We have to be able to communicate with [other intelligence organizations]. We have to be able to have databases that can be integrated with them, and right now we do not. It is a major problem."

That lack of IT capability was a major problem for the FBI's pre-Sept. 11 investigation into potential al-Qaeda plans, according to the report. In fact, when a Phoenix FBI field office agent drafted an e-mail in July 2001 — known now as the infamous "Phoenix memo" — he had no reliable way of querying a central FBI system to determine whether there were other reports on radical fundamentalists taking flight training in the U.S. or whether other FBI field offices were investigating cases of the same nature. Another agent had ex-

pressed similar concerns.

In addition, congressional investigators found that because of the limitations of the FBI's Automated Case File system, a number of addresses who should have received the Phoenix memo, including the chief of the FBI's Radical Fundamentalist Unit, weren't aware of the communication before the attacks occurred.

Correcting the Problem

FBI Director Robert Mueller, however, told members of the Senate Judiciary Committee last week that the bureau is only months away from completing work on a massive upgrade of its global IT infrastructure, including desktop

upgrades for all of its field offices across the world and upgrading software upgrades (QuickLink 4016).

Congress also singled out the NSA, the electronic eavesdropping arm of the Pentagon, for its inability to provide adequate IT tools for its analysts. And congressional investigators were surprised to learn that many of the problems at the NSA have persisted well after the attacks.

"NSA could not demonstrate its current analytic tools to the joint inquiry and could not identify upgrades that will assist NSA analysts in identifying critical intelligence amidst the large volumes of information it collects," the report concludes. And despite the \$282 million Trailblazer contract that the NSA signed last October

with San Diego-based Science Applications International Corp. to help the agency upgrade its data collection and analysis capabilities (QuickLink 33433), Congress warns in its report that the implementation of Trailblazer remains three to five years away. "Confusion still exists at NSA as to what will actually be provided by that program," the report states.

Aside from the lack of IT infrastructure and tools, information sharing and timely collection of intelligence were also significantly hampered by what congressional investigators characterized as a turf war between the CIA and the NSA over the control of certain technologies.

While CIA and NSA have had many successful joint counterterrorism techni-

To-Do List

IT-related recommendations from the congressional report include the following:

- Make better use of existing and emerging technologies to exploit terrorist communications.
- Improve and expand the use of data mining techniques and analysis tools.
- Develop an operating system that supports multilevel security clearance access.
- Use existing IT to modernize intelligence reporting and trend analysis.
- Develop an off-source intelligence fusion center within the Department of Homeland Security.
- Solve the FBI's "persistent and increasing information technology problems."

cal operations, the inquiry was told that overlapping targets and greater use of similar technologies caused friction between the two agencies in some instances, "the report says. ■

Standards Woes Plague WLAN Security

BY JAHNAKAR VILVIAN

Securing a wireless LAN remains complex and costly because of immature standards and a lack of interoperability, according to a Meta Group Inc. report released last week. Several approaches have emerged over the past two years that adequately address some of the security concerns related to the original Wired Equivalent Privacy (WEP) encryption protocol used in 802.11b WLANs, said Chris Korpas, analyst at Stamford, Conn.-based Meta and author of the report.

But the different standards and approaches adopted by vendors make WLAN rollout a major hassle, Korpas said.

"Vendors in general have not been aggressive enough at trying to simplify their solutions," Korpas said. Most are pushing their own agendas with proprietary standards and are "being apathetic in

terms of their willingness to push broader adoption of specific standards," he added.

As a result, for the next year at least, companies that plan to implement WLANs will have to adopt a single-vendor approach or use third-party wireless gateways, he added.

Meta's characterization of the situation is accurate, said Eric Goldreich, manager of technology at Latham & Watkins LLP, a Los Angeles law firm with 1,500 attorneys.

"There clearly is a gap between the marketing hype and the delivery of truly secure, in-

teroperable wireless networks," Goldreich said. Latham & Watkins therefore has no plans to deploy a WLAN, he said.

Much of the complexity stems from the array of standards confronting IT managers charged with securing WLANs.

Cisco Systems Inc. and Microsoft Corp., for instance, are pushing a standard called Protected Extensible Authentication Protocol (PEAP) for authenticating users on WLANs and defending against man-in-the-middle attacks.

Cisco also pushes another

protocol called LEAP (for Lightweight EAP), which, like PEAP, is based on the 802.1X authentication framework and mitigates some of the original weaknesses in WEP. Meanwhile, Funk Software Inc., a Cambridge, Mass.-based vendor of wireless technology, has another EAP authentication method called Tunnelled Transport Layer Security (TTLS). Like PEAP, TTLS uses a secure tunnel for passing user credentials from a client device to the authenticating server.

Though these technologies all broadly address the same problem, there are crucial differences that users need to be aware of when implementing them, said Kevin Walsh, a director at Funk.

Cisco's implementation of PEAP, for instance, is different from Microsoft's, and the two aren't interoperable. And supporting PEAP can force a company into an all-Cisco access point infrastructure, according to Meta. ■

Conflicting Standards

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Report cites lack of central database, poor IT support for FBI, NSA agents

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To-Do List

Conflicting Standards



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Indian Outsourcer Taps Skills of U.S. IT Workers

Cognizant Technology Solutions Corp., the fastest-growing Indian offshore outsourcing, expects to hire another 1,000 people by the end of the year. Although the bulk of those jobs will be in India, 300 to 400 of them will be in the U.S.

"We're recruiting like crazy and we're starting to recruit in business and technology schools in the U.S.," says Kumar Mahadeva, CEO of Traneek, N.J.-based Cognizant. "We're doing more and more local hiring, particularly in senior-level positions."

Mahadeva discussed those efforts and other outsourcing trends in an interview last week with Computerworld editor in chief Maryann Johnson. Excerpts follow:

Is the offshore industry primed for consolidation? It's already happening. Look at the growth rates: The top four to five players in India are all growing faster than the midtier players, whose revenues are flat. Most of the new business is going to the group of companies such as ours. Tata [Consultancy Services], Infosys [Technologies], Wipro. Yet there are still 300 small offshore companies in India.

Analysts point out that although global outsourcing may be a \$550 billion industry today, the top five players don't have even 20% of the market share. Is that likely to change? The Indian players only account for about \$10 billion of that amount, and it is a fragmented business. I think it will stay that way. People are less inclined to make the megaoutsourcing deals anymore. They're breaking it up, maybe outsourcing desktops to EDS, integration to Accenture, software development to Cognizant, etc.

At the same time, people are consolidating, shedding local contractors, trying to rationalize down from hundreds of

smaller outsourcing to a more limited set of players.

You've noted that Cognizant's 60% rate of growth is outstripping the 20% to 25% growth rate of your rivals. What are you doing differently? The No. 1 complaint against [Indian outsourcing] is that we're good at executing projects—when you sell us what to do, we do it—but that we're not good at advising companies during the transformation. That's where Cognizant has differentiated itself.

We're growing faster because clients find we're successful at managing these large programs. We can help with redefining or retraining people and making sure the cost savings are coming through.

We've spent a lot more in the U.S. and Europe to provide consulting groups that can handle change management. We're also the top recruiter from the business schools [in India], and we have a huge number of MBAs.



More Top Companies Eye RFID Technology's Potential

Recent moves by Wal-Mart, Delta spur increased interest in tags

BY BOB BROWIN

Radio-frequency identification (RFID) tags are continuing to gain attention from a wide range of belletter users, with American Express Co., United Parcel Service Inc. and United Air Lines Inc. adding their names to the list of companies that are piloting or evaluating the technology.

The heightened interest in RFID tags, which can be used to automatically track the luggage of airline passengers or items that are being moved through supply chains, follows announcements last month by both Wal-Mart Stores Inc. and Delta Air Lines Inc. that they plan to start using the devices.

Wal-Mart's requirement that its top 100 suppliers begin tracking shipping pallets via RFID by early 2005 caught the eye of UPS, according to Bob Nonneman, a corporate

strategy manager at the Atlanta-based package-delivery company.

Bentonville, Ark.-based Wal-Mart is "a big UPS customer, and we're working hard to understand their processes and [are] talking to them about opportunities" to jointly exploit the emerging technology, Nonneman said.

UPS has been studying RFID for more than a decade and started developing a detailed business case for using the devices before Wal-Mart disclosed its plans, Nonneman noted. As part of that process, the company is evaluating how RFID technology could help improve efficiency within its supply chain management service.

ROI Still Required

But like all the IT investments that UPS makes, any RFID projects will have to promise a good return on investment to get funded, Nonneman added. RFID tags typically cost between 30 and 50 cents apiece. He said that level of pricing remains "a real challenge" for

Risk mitigation is a big concern for U.S. firms, which often like to spread offshore development around with a variety of vendors and locations. Won't this preference for multisourcing and up-favoring the large companies like IBM, which has a more established global reach? Not really. The big players really have little experience with offshore development, even in India. Accenture, for example, will point to having lots of locations, but they do local work with small local contractors. It's "fly in and out" consulting. They're not used to doing global delivery.

What about security concerns with offshoring? What steps do you take to ensure that the people you hire aren't building back doors in software or writing malicious code? About half of our busi-

ness comes from financial services, and they are the most sensitive of clients about data privacy. Another 20% of our clients are from health care companies, which are just as paranoid.

We are audited and certified to BS 7799, the set of international regulations around physical and network security. Most clients will audit us for security and put in their own U.S. standards.

Some ask for a dedicated floor in a building, with only the people on their projects having access. The standards we enforce are just like those in the U.S. ■

MORE ONLINE

To read the full interview with Cognizant's Mahadeva, visit our Web site

QuickLink 40065
www.computerworld.com

a company like UPS, which ships millions of packages each year and already has made a large investment in bar-code systems.

New York-based Amex this month launched a pilot project to test a system called ExpressPay, which uses RFID chips that are embedded in key chains and can be linked to any major credit or debit card—including those offered by Amex's rivals.

The initial trial involves 170 fast-food outlets and other merchants in the Phoenix area. It says Amex spokesman Tony Mitchell, who added that the company hopes ExpressPay will be adopted as a de facto industry standard.

Amex also wants to use the

RFID technology to capture a larger share of purchases valued at \$50 or less for its credit card business, Mitchell said.

According to Amex, ExpressPay users wave RFID tags in front of readers that are attached to point-of-sale terminals. Purchases may be treated like typical credit transactions, or customers can spend against a prepaid value built into their devices.

The specialized RFID tags used by Amex cost about \$2 each, and the readers are priced at about \$100, according to Mitchell. But he said those costs aren't a hindrance for Amex, which plans to run the Phoenix pilot through the end of the year and then evaluate the results before deciding how to proceed with the technology.

United spokesman Jeff Andrews says the Chicago-based airline plans to monitor the 30-day test of RFID luggage tags that Delta plans to run in the fall on flights between Jacksonville, Fla., and Atlanta, where it's based.

United also wants to run closely with airports and technology vendors to track the development of RFID technology and "explore where it fits into our systems," he added. ■

How It Works

Indian Outsourcer Taps Skills of U.S. IT Workers

Cognizant Technology Solutions Corp., the fastest growing Indian offshore outsourcer, expects to hire another 1,300 people by the end of the year. Although the bulk of those jobs will be in India, 300 to 400 of them will be in the U.S.

"We're recruiting like crazy, and we're starting to recruit in business and technology schools in the U.S.," says Kumar Mahadeva, CEO of Teaneck, N.J.-based Cognizant. "We're doing more and more local hiring, particularly in senior-level positions."

Mahadeva discussed those efforts and other outsourcing trends in an interview last week with Computerworld editor in chief Maryann Johnson. Excerpts follow:

Is the offshore industry primed for consolidation? It's already happening. Look at the growth rates: The top four to five players in India are all growing faster than the midtier players, whose revenues are flat. Most of the new business is going to the group of companies such as ours, Tata (Consultancy Services), Infosys (Technology), Wipro. Yet there are still 300 small off-shore companies in India.

Analysts point out that although global outsourcing may be a \$650 billion industry today, the top five players don't have even 20% of the market share. Is that likely to change? The Indian players only account for about \$10 billion of that amount, and it is a fragmented business. I think it will stay that way. People are less inclined to make the mega-outsourcing deals anymore. They're breaking it up, maybe by outsourcing desktops to EDS, integration to Accenture, software development to Cognizant, etc.

At the same time, people are consolidating, shedding local contractors, trying to rationalize down from hundreds of

smaller outsourcers to a more limited set of players.

You've noted that Cognizant's 60% rate of growth is outstripping the 20% to 25% growth rate of your rivals. What are you doing differently? The No. 1 complaint against [Indian outsourcers] is that we're good at executing projects — when you tell us what to do, we do it — but that we're not good at advising companies on the transformation. That's where Cognizant has differentiated itself.

We're growing faster because clients find we're successful at managing these large programs. We can help with redeploying or retraining people and making sure the cost savings are coming through.

We've spent a lot more in the U.S. and Europe to provide consulting groups that can handle change management. We're also the top recruiter from the business schools in India, and we have a huge number of MBAs.



More Top Companies Eye RFID Technology's Potential

Recent moves by Wal-Mart, Delta spur increased interest in tags

BY BOB BENNEN

Radio-frequency identification (RFID) tags are continuing to gain attention from a wide range of businesses. Wal-Mart, United Parcel Service Inc. and United Air Lines Inc. are adding their names to the list of companies that are piloting or evaluating the technology. The heightened interest in RFID tags, which can be used to automatically track the luggage of airline passengers or items that are being moved through supply chains, follows announcements last month by both Wal-Mart Stores Inc. and Delta Air Lines Inc. that they plan to start using the devices.

Wal-Mart's requirement that its top 100 suppliers begin tracking shipping pallets via RFID by early 2005 caught the eye of UPS, according to Bob Nonneman, a corporate

strategy manager at the Atlanta-based package-delivery company.

Bentonville, Ark.-based Wal-Mart is "a big UPS customer, and we're working hard to understand their processes and [are] talking to them about opportunities" to jointly exploit the emerging technology, Nonneman said. UPS has been studying RFID for more than a decade and started developing a detailed business case for using the devices before Wal-Mart disclosed its plans, Nonneman noted. As part of that process, the company is evaluating how RFID technology could help improve efficiency within its supply chain management service.

ROI Still Required

But like all of its investments that UPS makes, any RFID projects will have to promise a good return on investment to get funded, Nonneman added. RFID tags typically cost between 30 and 50 cents apiece. He said that level of pricing remains "a real challenge" for

that mitigation is a big concern for U.S. firms, which often like to spread offshore development around with a variety of vendors and locations. Won't this preference for multivendors and up leveling the large companies like IBM, which has a more established global reach? Not really. The big players really have the experience with offshore development, even in India. Accenture, for example, will point to having lots of locations, but they do local work with small local contractors. It's "fly in and out" consulting. They're not used to doing global delivery.

What about security concerns with offshoring? What steps do you take to ensure that the people you hire aren't building back doors in software or writing malicious code? About half of our busi-

ness comes from financial services, and they are the most sensitive of clients about data privacy. Another 20% of our clients are from health care companies, which are just as paranoid.

We are audited and certified to BS 7799, the set of international regulations around physical and network security. Most clients will audit us for security and put in their own U.S. standards.

Some ask for a dedicated floor in a building, with only the people on their projects having access. The standards we enforce are just like those in the U.S. ■

MORE ONLINE

To read the full interview with Cognizant's Mahadeva, visit our Web site:

Circle 4008
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How It Works



EFFICIENTLY
WITH VIRTUS AND
VIRIDIAN

BY THE WAY


IN THE
SECURE
SYSTEMS

BRIEFS

CA Tops Forecast, Reports Q1 Profit

Computer Associates International Inc. returned to profitability in its first quarter, reporting a \$10 million profit. CA had forecast another loss, but it said revenue in the three-month period that ended June 30 was higher than expected. Total revenue amounted to \$2913 million, up 6% from \$2765 million a year ago. Even so, CEO Sanjay Kumar said users likely "will not return to the buying patterns of years past."

Sun Stays in Black, But Sales Drop

Sun Microsystems Inc. shed not a small profit for the second straight quarter, reporting fourth-quarter net income of \$12 million. But revenue fell 13% in the quarter that ended June 30, dropping from \$3.42 billion a year ago to \$2.98 billion. Sun's server business was again below expectations, in part because of delays in shipping its new SunFire V210 and V240 systems.

Sprint Uses Lucent Gear in Wireless Net

Sprint Corp. said it plans to upgrade its Sprint PCS wireless network by installing up to 11 billion worth of additional base stations and switches made by Murray Hill, N.J.-based Lucent Technologies Inc. Separately, Chesterfield, Mo.-based Amnoco Ltd. announced that Sprint plans to standardize its wireless operations on billing and CRM software developed by Amnoco.

Short Takes

ORACLE CORP. released an upgrade of its E-Business Suite 11i that includes revamped financial software and new functionality tailored for specific industries. . . . HEWLETT-PACKARD CO. said it has bought PAPERACIAL AB, a Stockholm-based developer of interactive voice software that supports the Wolfram3L standard.

Continued from page 1
Microsoft

(R/Texas), expressed concern about the government's reliance on a single vendor for the majority of its software infrastructure—a situation some have warned could make it easier for hackers and criminals to cause damage to networks and data.

"Given the position that Microsoft has, does that not make us more vulnerable?" Thornberry asked Charney during the hearing. "Because if you break into Microsoft, then you're into all sorts of things."

Pluses and Minuses

Charney acknowledged that there are valid arguments to be made on both sides of the single-vendor issue. "The advantage of a homogeneous environment is that it's much easier to manage," he said.

"When you run a lot of different software in the same environment, you need different expertise, and sometimes connecting those different systems raises its own vulnerability."

On the other hand, said Charney, relying on a single vendor for supply software for a homogeneous environment could mean that a vulnerability or security incident affecting one product could have broader implications for the rest of the organization.

Eugene Spafford, director of the Center for Education and Research in Information Assurance and Security at



ES If the software vendor is very responsive in providing security, then a single patch may take care of the problem.

SCOTT CHARNEY, chief security strategist, Microsoft Corp.

And if everybody is using the same system, those problems can easily spread, he said. "Until we get to the point where we have the appropriate

Purdue University in West Lafayette, Ind., agreed about the advantages outlined by Charney. But he also warned that there are hidden dangers in standardizing on a single platform.

Not giving users the proper training for such an environment can be the equivalent of giving each individual an "automatic weapon," said Spafford.

"As a result, any one of them becomes a potential launching point for a problem."

And if everybody is using the same system, those problems can easily spread, he said. "Until we get to the point where we have the appropriate

training and safeguards in place for every one of those individuals, and the reach of what they do is limited, it is perhaps better to have some partitions in place that may be wrought about by different vendors and different platforms," said Spafford.

Charney also told Congress that while Microsoft has refocused its energies on security through its Trustworthy Computing initiative, it also considers its security response capability to be a central weapon in its security arsenal.

"Where we distinguish ourselves is in the processes and systems used to remediate [security] events," Charney said in his written testimony.

"If the software vendor is very responsive in providing security, then a single patch may take care of the problem," Charney told the committee.

There are both pluses and minuses, and it's really a question of risk management. ■

Continued from page 1
Dial/SAP

a separate seven-year, \$10 million deal to outsource its IT operations to Electronic Data Systems Corp., said that SAP's ERP and CRM software will replace a mix of home-grown and packaged systems, including Oracle Corp.'s order-processing and finance applications.

ERP Vendor of Choice

Oracle's products have worked well, said Dial CO. Even Jones, he added, SAP has become the ERP vendor of choice for companies in the consumer goods industry. Scottsdale, Ariz.-based Dial now wants to exploit the same application functionality used by top manufacturers such as Colgate-Palmolive Co. and Procter & Gamble Co., he said.

"SAP has really got their arms around the best practices [in the consumer goods industry] and embedded it in their software," Jones said. John Moore, an analyst at ARC Advisory Group Inc. in

Dedham, Mass., said SAP has worked closely with Colgate-Palmolive, P&G and other key companies to co-develop application features tailored for the consumer goods industry.

As a result, Oracle and other ERP vendors have fallen well behind SAP in capturing customer wins, Moore said.

Oracle officials declined to comment on Dial's decision to switch to SAP's software.

Dial said it plans to install SAP's flagship R/3 applications and the Walldorf, Germany-based vendor's CRM products across its manufacturing, supply chain, finance, accounting and customer

management operations.

Work on the project is slated to begin in August and is expected to be completed within 18 months.

Potential Cost Savings

Jones also touted the potential for Dial to realize both operational and IT cost savings as a result of the planned change to SAP's application. "We are always looking for ways to more effectively operate our business," he said.

Dial said it expects to trim a total of \$21 million in expenses by outsourcing its IT infrastructure, support and management operations to Plano, Texas-based EDS. That includes reduced investments in IT hardware, said Herbert Baum, Dial's chairman, president and CEO, in a statement.

The company didn't quantify the additional savings it expects from using SAP's software. But Dial noted that it will take an accelerated depreciation charge of \$8 million over the next 18 months relating to the retirement of its existing business systems.

As part of the outsourcing

agreement, EDS will team up with SAP to lead the application deployment work. Jones said the involvement of EDS should help speed up the SAP installation and reduce the possibility that Dial will suffer any systems disruptions during the deployment.

In addition, the outsourcing move is designed to let Jones and SAP's application team focus more on the company's core business operations.

"From a strategic standpoint, it gives me more opportunities to spend more time than I do [know] with the business units themselves," Jones said.

Dial, which last week reported total revenue of \$644.9 million for the first half of this year, currently has about 60 IT workers. Nearly all of the IT staffers will become part of EDS, Jones said, but he added that the changeover should be "transparent" to Dial's operations.

The company's existing applications will be transitioned to data centers run by EDS, which also will host the SAP-based systems, he said. ■

Dial's SAP Rollout Schedule

■ The company said it plans to begin using SAP's finance and procurement applications at the start of next year's second quarter.

■ A second phase of the project calls for SAP's supply chain, manufacturing and order-to-cash applications to be added by February 2005.

HP. Standing at the forefront
of the Linux revolution.

At 200 million per month, the HP Linux Initiative is the world's widest, leading-edge Linux adoption program. By lowering the barriers to Linux, HP is helping companies solve their most vexing problems for less than any other Linux solution. With HP hardware, software and over 4,000 Linux-ready servers, HP can help you work faster and better. And, with HP's Linux Initiative, you can make your own HP Linux Initiative. For more information, visit www.hp.com/go/demandlinux.



To see what HP and Linux can do for
your business, try our TCO calculator
at www.hp.com/go/demandlinux.



MARYFRAN JOHNSON

A Glass Half-Full

PERHAPS THE MEEK really will inherit the earth, but the optimists are the ones who'll know how to enjoy it. Or maybe I should say the planners — those eye-on-the-future types who translate their faith in tomorrow into action plans today.

You saw a picture of one such optimistic planner on our front page last week: Tony Romero, CIO at Mitsubishi Motor Sales (QuickLink 39664). He has been using the economic doldrums as a time to reassess his company's IT plans and design a road map that unfurls to 2007. "We can plan now so when things get better we're ready to go," Romero told our reporter, explaining how he built both "big steps and baby steps" into his plans. "How fast we go depends on the size of the recovery," he says.

Bellsouth CIO Fran Dramis echoes the observations of many analysts and IT leaders when he talks about the "pent-up demand" for technology improvements across the business landscape, even in the battered telecommunications industry. "We have a whole set of plans about what we would attack," he says. "When things loosen up, the road map will flow even quicker."

And yet IT thinking is too well-grounded in reality to look for automatic budget increases once the recovery does rev up. "The IT spending slowdown is a gift for CIOs," says George Lin, CIO at Docuementum. "It helps us realize that sometimes the right thing to do is take a couple steps back and look at the big picture."

Discussing road maps and envisioning compelling tech projects certainly can provide a surge of hope for your weary IT staff. Equally important, however, is keeping

that live connection with the business side.

Romero, for example, holds the attention of his nontech types by continuing work on the IT projects they care about — like a call center system for car dealers or a consolidated financial reporting and analysis system for Mitsubishi's divisions. "Those are things we can do with the resources in hand," he notes.

"We look for quick hits to maintain awareness that IT is still here."

Our story also highlighted how CIO Tom Murphy recast an ambitious but sidelined CRM/supply chain project at Royal Caribbean Cruises into a smaller, more financially viable effort. Even with a staff downsized dramatically three years ago, Murphy has taken advantage of

modest rebounds in the travel industry to revive a few key efforts, such as a Web upgrade and some database and data warehousing work. To keep his IT head count stable, he outsourced certain Web skills and tackled other work in components rather than with a "big bang" project approach, which no longer works for most organizations.

While a genuine economic recovery still eludes us, it's a relief to see some optimism taking hold again. Surveys consistently show that CIOs and IT executives are laying plans to launch new Web portals, expand wireless pilots into full-blown roll-outs, upgrade staff skills and explore new outsourcing relationships. And the IT spending with lists all identify the same stuff: customer initiatives, security improvements, supply chain upgrades, integration projects and infrastructure consolidation.

Yet what's clear from our conversations with senior IT people these days is that the success of their organizations is just as critically linked to business process and people changes as it is to advancing technology.

The optimists and the planners understand that, and they've got it covered. ■

PIMM FOX

Time 2 Help Yur Wrkrs

IF YOU CAN determine the next word in the headline above, then you have a notion of how predictive text technology is supposed to work. Predictive technology is an attempt to automatically serve up words or letters to complete a previously expressed thought. For example, in the phrase call home, the word home would already be embedded in the context of call.

Given the value and explosive use of SMS text messaging and instant messaging (IM), it makes sense to alleviate the torture of texting — that is, punching keypads with your thumbs or scribbling on a tablet just to communicate off-used expressions. According to IDC research, SMS traffic surpassed 2.4 billion messages in 2002, representing an increase of more than 300% over 2001. Wireless-originated IM will hit an estimated 44 billion messages by 2007, according to Framingham, Mass.-based IDC, which says IM is considered even more important by businesses because it's easy to deploy and has less of a time delay than SMS and enables more natural conversations.

Whatever the delivery system, some type of predictive technology is in the office as part of an overall wireless/handheld strategy that takes into account manageability, security, corporate applications and e-mail.

An approach pioneered by Motorola, Tegic Communications Inc. (part of America Online) and Zi Corp. attempts to predict an entire word after you've entered only one or two letters. Similar in concept to a voice-messaging system that has "learned" the corporate directory, this technology relies on a static dictionary of keywords and other words added by the user.

Technology from AirT's Inc. goes further by trying to predict phrases or groups of words to match specific patterns. Indeed, it's possible to load dictionaries relating to vertical industries, thereby giving predictive technology a



jump-start, but the most effective method will be for the embedded technology to learn the idiosyncrasies of each user.

Another, perhaps more robust, route involves the Palm OS operating system from PalmSource Inc. In partnership with IBM, PalmSource is moving to link handheld devices such as mobile phones to Web services. This would allow users to discover and gain access to libraries of distinct words or phrases. This could be applied to Palm Inc.'s Graffiti writing software, making it predictive as well.

Because PalmSource is working at the operating system level, the libraries would be subject to the same Secure Sockets Layer standards designed for the overall network. An additional security feature offers the chance to manage the device as a node on a larger network via applications such as IBM's Tivoli and Computer Associates' Unicenter. For example, if a device is lost, an administrator can select to have the contents erased when next synced to the network. No matter which direction you explore, it's time to give your mobile users' thumbs a break and experiment with this new functionality. And if that's not enough to excite you, consider that predictive technology is a first step toward making SMS and IM more ubiquitous and useful in the enterprise — simply by making them easier to use. ■

DAN GILLMOR RSS Starting To Catch On

I'VE BEEN LOOKING at the future of information, and part of it is spelled R-S-S. I'm talking about a data format that has been around for a few years but is only now getting the attention it deserves. Depending on who's talking, RSS stands for RDF Site Summary (RDF in turn stands for Resource Description Framework), Rich Site Summary or Really Simple Syndication. It's the last of those that really describes it.

Why should IT care? Because people will discover, sooner or later, that this format can save time and money — and may be one of tomorrow's keys to communications.

RSS is an XML format used to distribute content via a self-syndication

method. In other words, it helps you offer and receive the information you want in a convenient way. Some readers of this newspaper who are getting "RSS feeds" about their favorite topics already know about this. But I'm willing to bet that most people are still unfamiliar with the technology.

The reason RSS has become so useful stems from the growth in popularity of weblogs, the online journals that have surged into prominence in recent years. Almost all weblog-creation software automatically creates an XML file based on weblog postings, in which key elements of the postings, such as titles and some or all of the text, are saved in RSS format.

That led to the creation of so-called aggregators, or newswriters — not the Usenet newsgroup readers of lore, but client applications that pull in the RSS feeds from various weblogs. This has given users the ability to aggregate information from a variety of sources into a single application, freeing them from having to surf to many sites. Newswriters check RSS files regularly



and highlight new material.

Other content creators noticed what was happening with weblogs and started creating RSS feeds of their own material. For example, the British Broadcasting Corp. Web operation has dozens of RSS feeds on a wide range of material. You can even get a Harry Potter news feed from the BBC.

The power of RSS has to be experienced to be understood. My newswriter, called Net-NewsWire (for Mac OS X), collects news, weblog items and even the latest information on new items that are being offered for sale on Amazon.com. I can quickly check the headlines, and sometimes much more, from dozens of Web pages without visiting them. This is the easiest way to gather such information.

IT folks should be thinking about applying these techniques to their own businesses. I've long believed that corporate executives and others in senior positions would benefit from writing weblogs, sharing their thoughts and observations internally and externally

in less formal ways than those absurd, turgid public relations sites allow. And rank-and-file employees could keep one another informed more efficiently by using weblogs. Passing around useful information via RSS feeds would only enhance the process.

The best reason so far to adopt RSS in a big way is its effect on the technology that we all once loved but is now so polluted: e-mail. Sending marketing messages and newsletters via e-mail has become a foe's errand; the obvious work-around is RSS. I'd much prefer to get public relations materials this way.

About the only thing standing between RSS and a major breakthrough is a standards battle. Whatever the outcome, users must insist that the technology that emerges is flexible enough to support innovation — and it must be kept out of the hands of corporate monopolists and would-be monopolists. It'll be obvious, sooner or later, that RSS is a time- and money-saver. The sooner IT discovers this, the better. ■

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READERS' LETTERS

Don't Bother Me

PATRICKA KERRY is right on in her call for a bit of civil rights ["Cyber Rights Overload," QuickLink 39637]. If the government would require that people opt in before receiving texts, we would eventually have real privacy. Just as when I have the right to resist who can enter my home, I should have the right to resist who can call, mail or e-mail me, and I shouldn't have to sign up for that right. And so long as all businesses operate under the same restrictions, then

the playing field is fair for all of them. **Dan Reichman**, CTR systems administrator, Richmond, Va.

Car Crash

IAN Harvard Business Review article, Nicholas G. Carr makes the point of what IT is ("Get Over Yourself," QuickLink 37990). By Carr's thinking, everyone purchasing a copy of Delphi, C++ or Visual Basic is doomed to produce the same software solutions. It is about solving business problems.

As long as there are strategic business problems, IT will continue to provide viable business solutions. **Dennis Coleman**, Software developer, Brentwood, N.Y., dnicol@optonline.net

Captchas' Limits

Companies do guard against e-mail accounts, but the article "Captchas Eat Spam" didn't mention accessibility (QuickLink 39571). Site visitors who use a screen reader or a Braille pad device to read

39496) was the most immoral, ill-conceived opinion I have read in a trade publication in quite some time. Basically, it encourages your readers to use their own judgment regarding which projects should and should not succeed and to do so liberally and secretly undermine those that they don't like. Anyone should be ashamed for having written this article, and you should be ashamed for having published it.

Peter Clark, Software department manager, Jervis B. Webb Co., Farmington Hills, Mich.

Car Criticisms Are to Be Expected

FOR THE DISCUSSION on Nicholas G. Carr's article in the Harvard Business Review, I believe that you recruited the wrong group for your panel ("I Don't See It," QuickLink 38675). You asked IT people to offer an opinion about criticism of their livelihood. This is an example of selecting participants to obtain the answer you're looking for.

A more forthright approach

would have been to discuss this topic with business leaders. Do CEOs and corporate leaders view IT as a commodity, or as a strategic tool in their arsenal? IT continues to be a facilitator of corporate change, sometimes strategic, sometimes not. But in industry, IT is rarely the driver of change.

John Pisciotta, Senior manager, Accenture, Houston

Web pages could never decipher a captcha. Therefore, sites using captchas would need to provide a phone number as an alternative so that these visitors could proceed with the registration process. **Charles Baker**, Webmaster, San Francisco Municipal Railway

Shame on You

FRANK WATERS' COLUMN "Sabotege Solution" (QuickLink

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to James Eschle, letters editor, Computerworld, PO Box 917, 500 Del Connecticut Pk., Framingham, Mass. 01701. Fax: (508) 859-4643. E-mail: letters@computerworld.com Include an address and phone number for immediate verification.

For more letters on these and other topics, go to www.computerworld.com/letters



I want

a VPN

that expands

our reach

and reduces

our budget

I want

a VPN

with the

flexibility to

incorporate

new technology

We want network intelligence.

Together, from one company.



An MCI VPN has intelligence built right in. It gives you the power to blend private and public networks securely and seamlessly, so you can add capabilities like remote access without investing in an entirely new infrastructure. Whether you manage your VPN or MCI does, you can always access our extraordinary range of cost-effective services and technology. Together, we can expand your network capabilities the only way we know how: intelligently. **To get your MCI VPN solution now, call 1 888 886 3844 or go to www.mci.com/go/online/vpn**

Code Reuse Gets Easier

Code asset management tools yield long-term cost savings, but they require policies to encourage code reuse, new programmer incentives and changes in the culture — not just the technology — in order to succeed. **Page 24**



QUICKSTUDY Event Correlation

Companies use event correlation software to monitor networks and other systems. It helps them identify patterns that might signify attacks, intrusions, misuse or failure. **Page 28**

OPINION IT Talk Moves To Higher Ground

IT talk has gone philosophical — either they're slicing the baloney thicker or the industry is maturing, says Tommy Peterson. **Page 32**

Companies are relying on multilevel spam-fighting strategies that include e-mail filtering tools, blacklist services and employee education. By Nym Gahooly

IMPOTENCY DRUGS and underdeveloped body parts may have become big jokes in anecdotes about spam, but they're no laughing matter to Joshua Elicio, director of information security at Memorial Medical Center in Las Cruces, N.M. While words like Viagra and penis seem like obvious triggers for spam filters, it's not so simple when you're at a teaching hospital where material on pharmaceuticals and anatomy are a malnourish to business.

For Michelle Bogness, electronic data security coordinator for the Health Insurance Portability and Accountability Act (HIPAA) project office at Baptist Health Care System in Pensacola, Fla., the story is much the same. "We get e-mail from the Centers for Disease Control, so we see things that those in the banking industry don't need to worry about. Anything from the CDC is 'whitelisted,' and we let [questionable e-mail] fall into quarantine rather than automatically deleting it." For spam filtering, Baptist uses IronMail from Alphareta, Ga.-based CipherTrust Inc.

Elicio's and Bogness' e-mail filtering challenges highlight the balancing act that IT professionals must perform as they attempt to deal with the onslaught of spam. They have to thwart the tremendous amount of annoying — and often offensive — junk e-mail that's infiltrating their companies and

simultaneously ensure that critical business information gets through. Their ongoing and escalating battle requires them to continually fine-tune their spam-fighting strategies as spammers become more aggressive and creative.

"Enterprises have seen spam become a major problem in the past six to nine months," says Anabella Halliwell, an analyst at Gartner Inc. "This has become a huge problem for the IT organization. At the beginning of the year, 30% of business e-mail was spam, and now, just a few months later, it's over 50%."

"Spam was once viewed as an annoyance, but it's now doing real harm to corporations," says George Tillmann, vice president and CIO at Boor Allen & Hamilton Inc. in McLean, Va. "Spammers are no longer merely annoying marketers — they're predators."

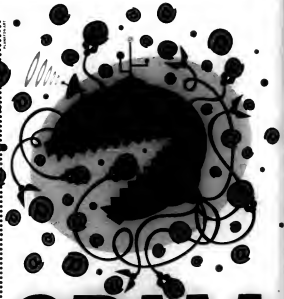
According to Ferris Research in San Francisco, spam cost U.S. corporations \$8.9 billion in 2002, a figure that's expected to rise to \$90 billion by the end this year.

"When you look at the costs of spam, there are three key elements: loss of productivity, cost incurred by the help desk when fielding calls about spam, and infrastructure costs, such as adding servers,

bandwidth and administration," says Martin Nelson, an analyst at Ferris.

The good news, says Halliwell, is that high-level executives, as inundated as everyone else, are responding with the necessary cash. "Budgets are being released to deal with the spam problem for three reasons: the visibility of the problem, the costs of dealing with all the spam, and the fact that a lot of the content is really obscene," she says.

Companies are spending these allocations on a variety of spam-fighting technologies and services. "We're seeing approaches become more suitable for the enterprise," says Halliwell,



SPAM Battle Plans

TECHNOLOGY

07.28.03

Code Reuse Gets Easier

Code asset management tools yield long-term cost savings, but they require policies to encourage code reuse, new programmer incentives and changes in the culture — not just the technology — in order to succeed. **Page 24**



QUICKSTUDY Event Correlation

Companies use event correlation software to monitor networks and other systems. It helps them identify patterns that might signify attacks, intrusions, misuse or failure. **Page 28**

OPINION IT Talk Moves To Higher Ground

IT talk has gone philosophical — either they're slicing the baloney thicker or the industry is maturing, says Tommy Peterson. **Page 32**

Companies are relying on multilevel spam-fighting strategies that include e-mail filtering tools, blacklist services and employee education. By Kym Gilhooly

IMPOTENCY DRUGS and underdeveloped body parts may have become big jokes in anecdotes about spam, but they're no laughing matter to Josbaa Elicio, director of information security at Memorial Medical Center in Las Cruces, N.M. While words like Viagra and penis seem like obvious triggers for spam filters, it's not so simple when you're a teaching hospital where material on pharmaceuticals and anatomy are a mainstay to business.

For Michelle Bogges, electronic data security coordinator for the Health Insurance Portability and Accountability Act (HIPAA) project office at Baptist Health Care System in Pensacola, Fla., the story is much the same. "We get e-mail from the Centers for Disease Control, so we see things that those in the banking industry don't need to worry about. Anything from the CDC is 'whitelisted,' and we let [questionable e-mail] fall into quarantine rather than automatically deleting it." For spam filtering, Baptist uses IronMail from Alphareta, Ga.-based CipherTrust Inc. Elicio's and Bogges' e-mail filtering challenges highlight the balancing act that IT professionals must perform as they attempt to deal with the onslaught of spam. They have to thwart the tremendous amount of annoying — and often offensive — junk e-mail that's infiltrating their companies and

simultaneously ensure that critical business information gets through. Their ongoing and escalating battle requires them to continually fine-tune their spam-fighting strategies as spammers become more aggressive and creative.

"Enterprises have seen spam become a major problem in the past six to nine months," says Arabella Hallawell, an analyst at Gartner Inc. "This has become a huge problem for the IT organization. At the beginning of the year, 30% of business e-mail was spam, and now, just a few months later, it's over 50%."

"Spam was once viewed as an annoyance, but it's now doing real harm to corporations," says George Tillmann, vice president and CIO at Booz Allen & Hamilton Inc. in McLean, Va. "Spammers are no longer merely annoying marketers — they're predators."

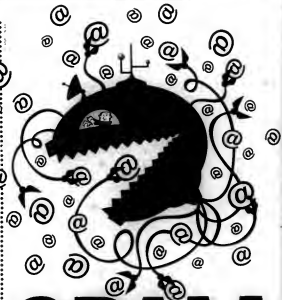
According to Ferris Research in San Francisco, spam cost U.S. corporations \$8.9 billion in 2002, a figure that's expected to rise to \$10 billion by the end this year.

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SPAM Battle Plans

Spam's Impact on Corporations

| | | | | |
|------|-----|----------------|--------------|-----|
| 2003 | 340 | \$39.8 billion | 6.9 billion | 24% |
| 2004 | 388 | \$41.8 billion | 10.9 billion | 37% |
| 2005 | 504 | \$34.8 billion | 17.9 billion | 59% |
| 2006 | 588 | \$32.7 billion | 34.4 billion | 45% |
| 2007 | 657 | \$38.9 billion | 38.4 billion | 49% |

Source: Spamalytics, Inc. (www.spamalytics.com). Data is based on a survey of 100,000 e-mails sent to 100,000 e-mail addresses in 2003.

adding that in order to be effective, vendors should support multiple spam-detection methods, such as heuristics, lexical analysis, statistical analysis and others.

In addition, companies should employ real-time black-hole lists (groups of Internet service provider addresses identified as sources of spam) and whitelists (company-defined lists of acceptable e-mail addresses that might normally get blocked by spam-filtering programs), and they should monitor and analyze their e-mail to ensure that their strategies are working. They should also set e-mail policies for the entire organization and educate users accordingly.

Nowhere is this fine-tuning more important than with spam-blocking technologies themselves. Set filter thresholds too low, and spam continues to flow in; too high, and business-critical information doesn't.

The Wheat From the Chaff

The biggest challenge to the spam war is what to do about false positives," says Matthew Berk, an analyst at Jupiter Research in New York. "On the corporate side, false positives mean important e-mails don't get through, and for businesses selling to consumers, false positives mean e-mails the company needs to get to customers get blocked. It's causing great risk on one side and great frustration on the other."

Jim Hyatt, head of security and contingency services at The Vanguard Group Inc., a financial services firm in Valley Forge, Pa., understands both the risk and the frustration. "If you want to make money-management people nuts, block information on securities or investments," he says.

"Spam creates a whole hierarchy of pain for us," he continues. "First, if inappropriate e-mail gets through to workers, it creates an unfriendly work environment. Second, we're in the financial

services business, so we have to monitor and retain e-mails. Third, there's the volume: We get 100,000 e-mails a day, of which 10% to 15% is spam, and of that, 30% to 35% is offensive."

Vanguard is using ClearEdge from Bellevue, Wash.-based Clearswift Ltd., as well as Unix sendmail, to filter spam before sending e-mail on to its Lotus Notes servers. To deal with false positives, Hyatt has two full-time people to monitor quarantined e-mail and test and fine-tune Vanguard's spam-filtering systems.

Teach Your Users Well

As an additional defense against spam, Hyatt has put in place an information security awareness program to educate Vanguard's 10,000 employees.

At Memorial Medical Center, user education includes taking a tough stance on e-mail policies. "With regards to spam, we were amazed at what was coming in—60% of our e-mail was junk," says Elicio. "We looked at network usage, reports from a Web and e-mail filtering perspective, and we were in critical mode in regards to our T1 service and our network usage for bandwidth. We decided to take a hard stance on people surfing and e-mailing."

A hard stance indeed: Memorial defines junk as anything unnecessary to the work process, including personal e-mails. The moves it has made have cut e-mails coming into its Microsoft Exchange 5.5 servers from 6,000 a week to 2,000, 700 of which are filtered out as spam. Furthermore, says Elicio, "we've made a great difference as to what kind of e-mail is going out"—a key consideration for HIPAA compliance.

Memorial's approach to spam is two-tiered. First, the hospital runs e-mail and Web filtering software from Scots Valley, Calif.-based SurfControl PLC. Second, it aggressively educates employees on e-mail policies, including where to forward any spam that gets to the desktop so it can be analyzed.

"There isn't a silver bullet for spam, but most of the junk e-mail has stopped, and it's primarily legitimate e-mail being processed," says Elicio. "And because of education, we're seeing a huge drop on e-mail usage and Web activity, so our bandwidth usage is back to normal. Before, we were always in crisis mode: We were going to have to spend \$35,000 on new servers, upgrade from our T1 to a T3, and upgrade router hardware and Internet access. Thanks to these steps, we didn't have to."

Many companies, however, simply can't institute such tight e-mail policies. "In the consulting business, e-mail is how you communicate with clients and each other, and it's difficult to distinguish what's personal vs. what's business," says Booz Allen's Tillmann. "Second, if you're going to place someone in Kuala Lumpur for eight weeks, you can't tell them they can't use their e-mail for personal correspondence." Booz Allen's 12,500 employees spend more than one day per week at a client site on average.

Booz Allen saw its spam numbers go "ballistic" in 2000 and initially put filtering on local machines, says Tillmann. By the end of 2002, that wasn't enough, and the company moved to take action at the corporate level. Booz Allen uses San Francisco-based Brightmail Inc.'s Anti-Spam Enterprise Edition 4.0 running on Sun Solaris servers to filter messages at the server level, and Netscape and Microsoft Outlook options provide filtering at the desktop level.

Like many other companies, Booz Allen quarantines e-mail that gets filtered as spam—2.5 million e-mails per month, roughly 45% of its e-mail traffic. This raises another issue related to spam: storage costs.

"My e-mail database is over a terabyte, so there's a tremendous amount of data spinning on disks that's spam. But while it may be tempting to ratchet up the filtering, we can't because we're a little nervous about not letting the right things get through. The last thing I want is to have a million-dollar consulting assignment go south because I filtered out a customer e-mail."

Gilbody is a freelance writer in Richmond, Maine. You can reach her at kymg@maine.rr.com.

MAKING THE LIST

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QuickLink 40099
www.computerworld.com

SPAM FILTERING IN CORPORATIONS

2003
2004
2005
2006
2007

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Even the best software is useless without top-notch support. So we'll always stand behind you. In fact, 130,000 consultants will be behind you. It's called the SAP Customer Services Network.

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We've been in business for over 31 years. Today, 29,000 of our employees are servicing 19,600 customers in 120 countries. As you can probably deduce from those numbers, we're committed to being your trusted partner for the long term. Evidently, that commitment has not gone unnoticed. As *BusinessWeek* Online recently commented: "In a world where being safe is sexy, SAP may be the biggest eye-catcher on the block."

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CODE REUSE

Gets Easier

An effective code-reuse program requires both good code asset management tools and good policies. By Gary H. Anthes



THE DEPUTY CIO at a major aerospace company had worked hard to get her company into software reuse. She hired reuse librarians, trained developers in reuse and object-oriented methods, and overhauled the company's software development methodology. Her goal was to have 60% of the code in new systems come from a library of reusable components within 12 months. But at the end of that time, the figure stood at just 6%.

"They were doing all the right things technically," says Richard Soley, chairman and CEO of Object Management Group Inc., a standards consortium in Needham, Mass. "But when I asked her how she measured the productivity of her developers, she said the same way they always had — by lines of code generated. And making code available for reuse just takes away from writing more lines."

Not changing programmer incentives and culture along with the technology is the No. 1 mistake companies make in software reuse, Soley says.

Diebold Inc. in North Canton, Ohio, is getting better results from its reuse program than the aerospace company did. Richard King, a senior software applications support engineer, says Diebold has seen a whopping fivefold improvement on the speed of development of new applications by using its "toolbox of reusable assets."

The toolbox holds components as simple as "read-me" text files and as complex as Java and .Net components.

It uses Component Manager Enterprise Edition (CME), a repository manager from Flashline Inc. in Cleveland that creates searchable indexes of software-related assets and maintains metadata and use history about those assets.

CME spans multiple source-code repositories at Diebold, including Microsoft Visual SourceSafe and PVS3 Version Manager from Merant Inc. in Hillsboro, Ore.

Although programmers at Diebold are expected to make software reusable whenever feasible, the company has a special development group dedicated to reuse. It looks for reuse needs, develops components accordingly and puts them into CME.

Getting developers to tap into the reuse library thereafter isn't difficult, King says. "Deadlines are so tight now that they would never be able to meet them without aggressively reusing," he explains.

Sharing Made Easier

Programmers have been swapping code for as long as software has existed. What's often lacking are procedures, disciplines and tools for tracking, managing, searching and distributing software assets.

"Developers like to share things informally, and managers might be surprised to find how much reuse they already have," says Dale Hite, chief technology officer for software architecture at Fidelity National Financial Inc. in Santa Barbara, Calif. "The leverage comes from being able to manage where it's at, locating it, updating it and maintaining it once vs. maintaining it in a number of iterations."

The functions Hite refers to are central to a family of tools that lie at the heart of software asset reuse: searchable repositories of software metadata and use history.

But those aren't the only products that support reuse. Others include development tools and environments, version-control software, tools for wrapping or transforming legacy code, and messaging tools that can access reusable code where it sits.

Software reuse received much attention in the 1980s but didn't catch on in a big way until the advent of object-oriented languages and tools. More recently, the rise of XML-based Web services and their Universal Description, Discovery and Integration (UDDI) directories have made reuse easier, as have two standard component models, J2EE and .Net.

Finally, the emergence of Unified

Patterns Form Code-Reuse Fabric

SOFTWARE REUSE has traditionally meant that you literally save code written for one application and use it again in another. But increasingly, companies are seeing the value of reusable precode assets such as "patterns."

Software patterns are written narratives that define a problem, outline a solution and describe the trade-offs involved in using that pattern.

The best patterns are developed with considerable rigor, and they must pass peer review to be seen as worthy of inclusion in the pattern canon.

"Patterns are very useful because they provide a standard terminology," says Daniel Mezick, president of New Technology Solutions Inc., an IT consulting and training company in North Wales, Conn. "They provide a good touchstone about where we are starting from."

Patterns, which originated in the Java world, "are starting to bleed into the .Net world," he says.

One example is the Session Facade pattern, which encapsulates the complexity of interactions among business objects

while presenting a service-access layer to clients.

Another, the Model-View-Controller pattern, uses three objects to separate the user interface (view), the logical structure of data in an application (model) and the commands that pass from the user's mouse or keyboard and cause the view or model to change (controller).

For more information on patterns, visit The Hillside Group's Patterns home page at <http://hillside.net/patterns/>.

— Gary H. Axtell

Modeling Language (UML) for object-oriented software management and the Reusable Asset Specification, a UML-based standard for defining and managing reusable components, are making software tools more powerful and interoperable.

Fidelity's goal is to have half or more of any new system come from reusable components. It uses Flashline's CMEE and several source-code version-control tools. The company's reusable components include mostly low-level code — just above the operating system level — and "patterns," such as the Model-View-Controller pattern, a standard way to break a graphical user interface into its input, processing and output functions (see sidebar, above).

At Fidelity, patterns are standards, or "prescribed methods," Hill says.

More Than Code

Indeed, although the practice is called "software reuse," much more than code can be carried in reuse libraries. Assets can include things such as business-process rules, best practices, interface specifications, test cases, images, documentation, models, patterns, XML schemas and code at all levels — virtually anything that can be placed in a file.

Companies are increasingly seeing the benefits of reusing precode assets, says Grant Larsen, model-driven development strategist at the Rational Software Corp. division of IBM.

"Artifacts that come from the earlier part of the [software] life cycle — de-

sign specs and requirements — potentially have higher relevance than code," Larsen says.

CNA Financial Corp. reuses software assets at two levels. It catalogs and reuses patterns such as the J2EE Session Facade, which encapsulates business logic and presents a uniform service access layer to clients.

The patterns constitute best practices, says Dmitry Tymokin, enterprise architect at the Chicago-based company. He says these kinds of components might be used six or seven times in a year out of some 10 to 12 projects for which they are candidates for reuse.

At a higher level, CNA also maintains reusable routines such as the code that determines claims eligibility in "subroutine" assets. Both kinds of reusable assets are managed and tracked by the Logixis metadata catalog from Logixis Library Inc. in Pittsboro, N.C.

Logixis catalogs software assets and shows their relationships to one another and to a company's business processes and technical infrastructure.

Companies should move to a "service-oriented architecture where you essentially decompose your large specifications into smaller pieces, or 'services,'" Tymokin advises. These services, such as claims eligibility, are "subroutines taken to a higher level," he says.

"They don't care if the client is written in Java or .Net or anything else, and they don't care which platform," adds Tymokin. "They use XML to commu-

nicate, and that's all they care about."

The extra effort necessary to make code suitable for reuse ranges from 50% to 100%, says Andrew Zimmerman, senior application architect at Citigroup Real Estate Servicing and Technology, a St. Louis-based division of Citigroup Inc.

But the payoff can be significant. Zimmerman cites an application that took 6,000 hours to develop with reuse in mind but then required just 240 hours to roll out to a second business unit and 40 hours to roll out to a third. Had the system not been developed for reuse originally, it would have taken only 4,000 hours or so the first time, but thousands of hours for each subsequent rollout, he says.

Citigroup now puts metadata about all of its code into its repository, not just metadata for those components designated for reuse. Each component is tagged as "mandated," "recommended" or "optional."

"People would hold back submitting something because it, for example, hadn't been documented," Zimmerman says. "So we said we are going to treat all of our software as potentially useful in future development efforts."

Finding Ways to Reuse

Citigroup hasn't yet gone back to harvest reusable components from its mainframe systems, but it has found a way to make those components reusable. It uses the messaging capabilities in IBM's WebSphere MQ to allow its Web applications to invoke Cobol code on a mainframe. These Cobol components aren't registered in CMEE, but the WebSphere MQ components that access them are.

The reuse program at Home Buyers Warranty Corp. in Aurora, Colo., is built around the RequisitePro requirements management tool from Cupertino, Calif.-based Rational and the Component Manager repository from Select Business Solutions Inc. in Boulder, Colo. HomeBuyers Warranty uses RequisitePro to track "use cases" — essentially business-process rules.

Component Manager holds and manages self-contained code routines, such as the program that pops up a calendar on a Web site, says James Tullant, director of IT at Home Buyers Warranty. A business application could have more than 2,000 such reusable components, he says.

Tullant says the company's CRM, ERP and accounting applications are all custom-built in the .Net architecture using C# and C++. Between 50% and 70% of each one comes from

A SOFTWARE REUSE TOOLBOX

TOOLS FOR TRACKING, MANAGING, DESCRIBING AND SEARCHING REUSABLE ASSETS:

■ Component Manager Enterprise Edition, Flashline Inc.
www.flashline.com

■ Logixis, Logixis Library Inc.
www.logixislibrary.com

■ Component Manager, Select Business Solutions Inc.
www.selectbs.com

DEVELOPMENT TOOLS:

■ WebSphere Studio Application Developer, IBM
www.ibm.com

■ Rational Data Development Studio, Rational Software Corp.
www.rational.com

VERSION-CONTROL/CONFIGURATION MANAGEMENT TOOLS:

■ ClearCase, Rational Software
www.rational.com

■ Visual SourceSafe, Microsoft Corp.
www.microsoft.com

CODE MIGRATION TOOLS:

■ .NET and J2SP, to migrate applications developed in Microsoft-based environments to execute in Java-enabled environments
■ Straton Inc.
www.straton.com

Products to migrate Visual basic to .Net, Java to .Net, Oracle Forms to J2EE, and Informatica 4GL to Java
■ AntSoft Zone France SA
www.antssoft.com

REMOTE CODE ACCESS TOOLS:

■ WebSphere MQ, IBM
www.ibm.com

reusable components, he says.

"Doing it this way beats out packaged applications, which are so difficult to implement," he says. "People don't realize that the hard part about systems is building the interfaces. We don't have to do that anymore. It's all integrated. It's the new way to develop high enterprise software."

COLLABORATION ISSUES

How's where software reuse tools fit in?

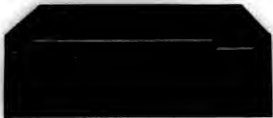
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CISCO SYSTEMS



Event Correlation

BY RUSSELL KAY

IN TODAY'S interconnected world, network management is critically important. Those who maintain the network need to quickly pinpoint and fix any problem, whether it's a malfunctioning mail daemon or a damaged fiber-optic link.

Luckily, almost every part of a modern network provides data about what it's doing.

- Operating systems log systems and security events.
 - Servers keep records of what they do.
 - Applications log errors, warnings and failures.
 - Firewalls and virtual private network gateways record traffic deemed suspicious.
 - Network routers and switches watch what goes on between network segments.
 - Messaging systems forward alerts, such as Simple Network Management Protocol (SNMP) traps, to a central management console.
- Besides monitoring their own behavior, all these devices and management programs receive and relay messages from other network systems, leading to duplicate alerts. A single failure or problem can generate a blizzard of event messages.
- The more complex the network and the more applications that are distributed, the more event messages, alarms and alerts the appliances will generate. In the end, far more data is generated than anyone can easily scan, and it's all over the place.
- In 2000, Chris Jordan, a security manager at Computer Sciences Corp., wrote in a posting to the SecurityFocus

DEFINITION

Event correlation is the process of monitoring what is happening on networks and other systems in order to identify patterns of events that might signify attacks, intrusions, misuse or failure.

Web site, "OC-12 connections can generate about 850 megabytes of event data in an hour." OC-12 is a fiber-optic connection with bandwidth of 622Mbit/sec. That translates into more than 600GB of data per month, or 7TB a year — just for logs and alerts related to a single network link.

"IT managers spend 60% to 90% of their time resolving problems just with simple diagnostics," says Dennis Drogseth, vice president of Enterprise Management Associates Inc., an analyst and market research consultancy in Portsmouth, N.H.

QUICK & STUDY

Event correlation simplifies and speeds the monitoring of network events by consolidating alerts and error logs into a short, easy-to-understand package. A network administrator can deal with, say, 25 events based on cross-referencing intrusion alerts against firewall entries and host/asset databases much more efficiently than when he must scan 10,000 mostly normal log entries.

The benefits can be very real: more efficient use of staff time and skills, as well as the prevention of revenue loss re-

sulting from downtime.

According to Marcus Ranum, an independent computer and communications security consultant in Woodbine, Md., "Correlation is something everyone wants, but nobody even knows what it is. It's like liberty or free beer — everyone thinks it's a great idea and we should all have it, but there's no road map for getting from here to there." Still, a variety of technologies and operations are associated with event correlation:

Compression takes multiple occurrences of the same event, examines them for duplicate information, removes redundancies and reports them as a single event. So 1,000 "route failed" alerts become a single alert that says "route failed 1,000 times."

Counting reports a specified number of similar events as one. This differs from compression in that it doesn't just tally the same event and that there's a threshold to trigger a report.

Suppression associates priorities with alarms and lets the system suppress an alarm for a lower-priority event if a higher-priority event has occurred.

Generalization associates

alarms with some higher-level events, which are what's reported. This can be useful for correlating events involving multiple ports on the same switch or router in the event that it fails. You don't need to see each specific failure if you can determine that the entire unit has problems.

Time-based correlation can be helpful establishing causality — for instance, tracing a connectivity problem to a failed piece of hardware. Often more information can be gleaned by correlating events that have specific time-based relationships. Some problems can be determined only through such temporal correlation. Examples of time-based relationships include the following:

- Event A is followed by Event B.
- This is the first Event A since the recent Event B.
- Event A follows Event B within two minutes.
- Event A was not observed within Interval I.

Winning Users Over

"Event correlation, in its basic form, is becoming almost a commodity product," says Drogseth. "Where you want to reduce the number of events and alarms and have some level of topological awareness to eliminate duplicates — that's pretty standard and working today." Buyers are skeptical, but Drogseth says many event-correlation products work well out of the box or with minimal customization.

"There are any number of more sophisticated approaches that are all about diagnostics, finding out what is the real cause of a problem," Drogseth says. "Here, you have to address a lot more complexity in network infrastructure." When you start trying to isolate a problem and get at the true root cause, he says, "you have a high level of investment and complexity, but also a high level of value."

Kay is a Computerworld contributing writer in Worcester, Mass. Contact him at russkay@charter.net.

Getting to the Last Crucial Step

Event correlation is the last of four steps in event processing. Here's the entire sequence:

Event collection: Any useful event-correlation engine needs a process that feeds it as many events as possible in order to get the maximum amount of filtering and correlation desired. A high-performance collection engine accepts all events sent to it. An event-collection engine needs to process SNMP traps and syslog messages.

Event knowledge: Processing and reporting of events must be accompanied by a comprehensive explanation of an event, how it relates to the operation of the device, and possibly an explanation of the network.

Event filtering: Numerous and repetitive events can clutter a network management system to the point where network operators shut off the feature and rely on their intuition and user complaints. Therefore, the number of events reported to network operators should be reduced by removing repetitive messages. For example, identical messages repeated within a given time period) and to eliminate low-priority events (events not deemed as requiring operator notification).

Event correlation: After events are filtered, event correlation assesses the critical nature of an event as it relates to a device or other events.

SOURCE: QUICK STUDY (SEE PAGE 28)

MORE TOOLS

For a list of some products on the market for event correlation, visit our Web site.

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Event Correlation

BY RUSSELL RAY

IN TODAY'S interconnected world, network management is critically important. Those who maintain the network need to quickly pinpoint and fix any problem, whether it's a malfunctioning mail daemon or a damaged fiber-optic link. Luckily, almost every part of a modern network provides data about what it's doing:

- Operating systems log systems and security events.
- Servers keep records of what they do.
- Applications log errors, warnings and failures.
- Firewalls and virtual private network gateways record traffic deemed suspicious.
- Network routers and switches watch what goes on between network segments.
- Messaging systems forward alerts, such as Simple Network Management Protocol (SNMP) traps, to a central management console.

Besides monitoring their own behavior, all these devices and management programs receive and relay messages from other network systems, leading to duplicate alerts. A single failure or problem can generate a blizzard of event messages.

The more complex the network and the more applications that are distributed, the more event messages, alarms and alerts the appliances will generate. In the end, far more data is generated than anyone can easily scan, and it's all over the place.

In 2000, Chris Jordan, a security manager at Computer Sciences Corp., wrote in a posting to the SecurityFocus

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QUICK STUDY



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Admiral

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Rogue Linux Installs on the Rise

Virus mop-up operations expose unauthorized Linux installations - and new IT security vulnerabilities. By Mathias Thurman

A RECENT ENCOUNTER with the Mums worm continues to cause my company's security team great frustration, because new infection reports keep trickling in. And as if viruses weren't enough, we now have another problem.

As for Mums, most of the company is aware of the outbreak. We've communicated specific instructions via e-mail and an intranet Web page on how to detect and remove the virus. And at this point, the desktop support department has taken over responsibility for dealing with this issue.

But while cleaning up Mums in remote offices, we discovered something else: We have a growing number of unofficial Linux installations on desktops and servers throughout the company, and they aren't configured for optimum security.

The weaknesses from the rogue installs don't necessarily stem from the Linux operating system itself. Rather, they come from the installation of third-party applications and utilities, which can leave a desktop or server vulnerable to attack if set up incorrectly.

Growing in Popularity

Until now, we haven't had a policy on using Linux because there wasn't a need. One year ago, only a small subset of users ran Linux. The Linux desktops mostly belonged to developers or quality assurance and technical support staffers responsible for supporting our company's soft-

ware on Linux. Now there are many more. Employees are installing Linux on their desktops, either as the primary operating system or as a second one alongside Windows 2000, our corporate standard.

Staff members are doing this using VMware from Palo Alto, Calif.-based VMware Inc. and other programs that allow multiple operating systems to run on the same machine.

Also, my company is using Red Hat Linux for more of its application servers.

For example, we recently purchased an application for conducting surveys that runs only on Linux.

With the increased emphasis on Linux, some departments within the company, including mine, are considering using more open-source tools to help with day-to-day operations. I'm looking at a Linux-based knowledge base engine for the IT security department.

Knowledge base applications are good to have, especially in a department that has many applications to support. Certain configuration problems and associated remedies can be stored within the knowledge base system

for future reference.

I'm also looking at security incident reporting programs to keep track of problems that occur frequently. One thing that frustrates me is having to read through incident reports — we generate more than 300 of them per year — looking for anomalies.

Currently, we write incident reports in Microsoft Word using a template and save them on a shared drive accessible only to the security team. When an incident occurs that might be similar to something that happened in the past, the only way to find such incidents is to do word searches or read through past reports.

An incident reporting and tracking system would ease that data collection and correlation burden. I found several open-source programs that could help, but not everyone in the company wants us to use them. One of the problems management has with open-source is the lack of traditional support — the ability to call in to the software vendor's help desk. My team is technically savvy, so we don't mind the accessing forums, knowledge base sites and other online resources to get answers.

Another objection is that troubleshooting usually requires some technical knowledge of the operating system and programming. But for the most part, if the application is department-specific and not mission-critical, my team and I don't have a problem getting approval to use open-source tools.

In addition to open-source, we've deployed commercial enterprise applications on Linux. It's a lot cheaper to run an application on Linux and a standard PC than to purchase Solaris and a Sun server. The problem is that each Linux in-

stallation is different, and that's a security issue. There are so many Linux distributions that it would be difficult to create and manage standard configurations for each.

Therefore, we're standardizing on Red Hat Linux. It offers strong vendor support, and many enterprise applications are written specifically for it. We will also standardize on certain applications, such as Web server, monitoring and security software.

Vulnerable Programs

Red Hat Linux itself seems to be fairly secure, but the same can't be said for programs that run on top of it. For example, there always seem to be vulnerabilities associated with programs such as the transfer protocol, sendmail and Apache. And other open-source software is vulnerable, especially when the developer hasn't written the program with security in mind.

One of the most common mistakes I have seen is when the developer doesn't write the program to sanitize it or restrict dangerous data to being passed to it. This is usually the cause of vulnerabilities such as SQL Injection, authentication bypass, buffer overflow and other Web application exploits.

We can't eliminate Linux, so the solution is to create standard baselines for our Linux systems, just as we do for Solaris and Windows. We'll start by doing this for our Linux-based Web, application and database servers. As with our Solaris and Windows systems, we will use imaging software and create a "jump-start" system configuration that will serve as the baseline configuration for all machines. Hopefully, this will keep security problems to a minimum. ▀

WHAT DO YOU THINK?

This week's journal is written by a real security warrior. "Red Hat Linux," whose name and employee have been disguised for obvious reasons. Contact him at mathias.thurman@phd.com, or join the discussion in our forum. Quoted link #9890

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SECURITY LOG

UNDER REVIEW

PureSecure 1.6

Secure Security Inc.
www.secure.com
82,360

I'm a big fan of PureSecure, an open-source intrusion-detection system (IDS) program, but I'd also like to have centralized event management and event notification. Secure Security, Calif.-based Secure's PureSecure 1.6 software handles multiple threat monitors and central management of everything from individual configurations to status monitoring and release organizations.

Improvement: Installing PureSecure, which uses MySQL, to share events, on a cheap Linux system. My initial installation didn't work well on a system that already had MySQL loaded. PureSecure also has a user interface that's easy to use. I had considerable recommending it.

— Mathias Thurman

SECURITY CERTIFICATIONS

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Antiprom Product Promises Accuracy

Promises Inc., in Cupertino, Calif., has announced Product Protection Service, an enterprise-wide software gateway that the start-up says is more accurate than other products at spotting unwanted web traffic. It features a sophisticated algorithm that can detect and automatically block suspicious-looking methods to visitors, including e-mail messages.

**SECURITY
MANAGER'S
JOURNAL**



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Virus mop-up operations expose unauthorized Linux installations - and new IT security vulnerabilities. By Mathias Thurman

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BRIEFS

BMC Upgrades Patrol Express

BMC Software Inc. in Houston last week announced Version 3.0 of Patrol Express, which remotely monitors systems and network infrastructures. Version 3.0 monitors Web transactions from an end-user perspective and enables customers to measure Internet latency, said BMC. Version 3.0 will be available the first week of August. Pricing starts at \$95,000.

IBM Pulls Low-End NAS Servers

IBM announced this month that it has withdrawn its Windows-powered, low-end, network-attached storage (NAS) servers, the NAS 100 and NAS 200 arrays. IBM and its partners will continue to support existing NAS 100 and 200 users, the company said.

Avaya Launches IP Security Gateways

Avaya Inc. in Basking Ridge, N.J., last week announced five new security gateways for secure IP telephony for branch offices, teleconferencing and contact centers. Each security gateway integrates virtual private network functions, firewall coverage and IP telephony support to provide a centralized system for secure and cost-effective communications, according to Avaya. Pricing ranges from \$695 to \$14,995.

Scalix Releases Linux-based App

A new Linux-based e-mail and collaboration application for large enterprises is available from Scalix Corp. in San Mateo, Calif. The product will run on the Red Hat Advanced Server operating system and is compatible with most software, including Microsoft Outlook or Lotus Notes. Pricing for the product, which includes a Web-based client, begins at a one-time rate of \$50 to \$60 per user, plus support fees.

TOMMY PETERSON

IT Talk Moves to Higher Ground

HAVE YOU NOTICED that geekiness is going out of style in IT? The old reveling in speeds and feeds and mounting terabytes of storage is gone. No more infatuations with the nuts, bolts, bits or bytes of the slickest technology of the moment. Concepts and connections are in, while granular tech specs are

receding into the background, the way things do when they become pervasive, a relied upon but little thought of part of life.

Part of this trend follows from the current rhetoric — and reality — demanding that IT march to the cadence of business process and business needs. The line-of-business side of companies is less interested in how technology works than in how it will work to increase productivity and the bottom line. Tight budgets reduce tolerance for technology for its own sake.

But there's more going on than that. Much of the talk in and about IT these days smacks more of philosophy, psychology and anthropology than engineering and economics. And even discounting the substantial helping of baloney, there are signs that the industry is maturing, putting technology in both business and human contexts.

For example, take business intelligence, a very geeky subdivision of IT, a haven of Ph.D.s in statistics. Every vendor, analyst and user involved in a major BI project I've interviewed recently has moved the conversation away from technology and toward cultural transformation and the need to empower workers. "The idea is to get the information in as many hands as possible, and eventually to let a team do analytics together," says Christopher Ahlberg, CEO of Spotfire, which

makes "guided analytics" featuring a graphical query and response system.

At the Catalyst Conference on network and telecom strategies earlier this month, some analysts suggested that while technologies were being developed to manage and federate identities, they might also be changing the fundamental nature of what we mean by

"identity." Pretty heady stuff.

Of course, these same network strategists have been struggling for years with the way computers, networks and the Internet have reshaped — some would say obliterated — our old ideas of privacy. And while vendors and their corporate users work hard to pull a technological privacy curtain around HIPAA-protected health care records, other laws like Sarbanes-Oxley push in the other direction, toward finding technologies that enable financial transparency and corporate accountability.

Technology and the legal system are redefining intellectual property for the digital age, and ways to protect the rights that flow from the new definition are yet to be found. The debate over digital rights may have begun with teenagers swapping music files, but it encompasses our notions of individuality, creativity and ownership.

The late Michael Dertouzos, futurist and head of the computer science labs

at MIT, said the interface that matters most in any technology is that between machines and the humans who use them. He spent his career promoting "human-centric" computing, in which awareness of technology faded away as the technology served our needs more efficiently. Dertouzos spearheaded MIT's Oxygen Project, which aims to make computing as invisible, pervasive and sustaining as the air we breathe. The increasing number of regulations sparked by IT are signs that Dertouzos' vision is coming to pass. We need laws to govern technologies that have been woven into our lives.

That doesn't mean that IT will become mundane or dull, at least at its outer edges. IT has always had and always will have visionaries and grand thinkers. Think of Ray Kurzweil. A pioneer in optical character recognition, speech recognition, virtual reality, music synthesis and medical simulation, Kurzweil has unabashedly turned his attention in recent years to the biggest question of them all: Is immortality possible? As an interim step, Kurzweil has speculated that nanorobots might be used to download information from our brain cells that could then be transferred to a "more stable storage medium."

The term information technology suggests the discipline's fundamental link to epistemology and age-old questions of what we know and how we know it. Greek philosopher Heraclitus tried to figure out how we navigate the stream of physical sensations continually bombarding us in order to pluck meaning out of chaos. Is that much different from the work of information technologists to turn streams of data into information, perhaps even knowledge, and make our lives better? ▀

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OPINION**Swiss Trains and Service Metrics**

When it comes to IT-delivered services, businesses could learn something from the Swiss and start measuring time from the customer's point of view, says columnist Merrit Smith. **Page 42**

**Q&A****It's a Telecom Buyer's Market**

Telecommunications auditor Missy Sue Mastel (left) tells how to avoid getting overcharged and recommends negotiating better terms in wired and wireless contracts. **Page 40**

**Who's Changing the Rules?**

Rules management software lets business people alter logic in applications, but CiticStreet CIO Andy Marsh (left) says IT needs to keep an eye on things. **Page 36**



Swarming technology helps widely dispersed experts converge on a business problem, fast. But it can be hard to manage. By Kathleen Melymuka

AT GLOBAL ADVERTISING agency Lowe & Partners Worldwide, when an account executive in Hong Kong gets a request for a proposal from a prospective client, he opens up a collaboration space on his PC and invites in subject-area experts, planners and other creative types from India to England. Each can invite others from his personal network, whether inside or outside the company. In minutes, a swarm of creative talent is exploiting the opportunity. Artists post relevant images; content experts surf the Web in unison to find useful sites; researchers drop in pertinent files; copywriters type or edit documents together in real time. "This has shifted the landscape of expertise," says Eshan Schoonover, e-business director for the Asia-Pacific region at Lowe. "We're discovering resources we didn't know existed."

On the other side of the world, HP Services, which provides business services, systems integration and consulting at Hewlett-Packard Co. is also swarming. When an HP field consultant has an opportunity to bid on a big ERP project, he opens up a collaboration space and solicits advice from people he knows who have recently worked on similar projects. They each tap their own contacts, and so on, to bring the right people into the team space quickly to plan and then execute what needs to be done.

Swarming is a type of collaboration in which large numbers of geographically dispersed people quickly self-organize in a peer-to-peer network to deal with a problem or opportunity. It's a fluid, shifting network with no central control or hub. A swarm can be as complex as a global business network or as simple as a "cell phone posse" (see "Some Real-Life Swarms," page 36).

The military has been studying swarming as a tactic for some time, says John Arquilla, professor of defense analysis at the U.S. Naval Postgraduate School in Monterey, Calif.

It was swarming that helped 300 U.S. commandos in Afghanistan to topple 100,000 Taliban field forces in the fall of 2001, he says. And swarming has cut the lead time necessary to attack a military target from eight or 10 hours to eight or 10 minutes, because it brings key planners together faster.

With this kind of success, it's not surprising that swarming is being discovered by business. "It lets organizations do more, quickly, with the same resources," says Michael D. Cohen, professor of complex systems, information and public policy at the University of Michigan, Ann Arbor, and

Meeting OF THE Minds

Meeting Minds



co-author of *Harnessing Complexity* (Basic Books, 2000). "A lot of people are betting that those [swarming] tools will enable more agile, quickly assembled, ad hoc collaborations of many kinds."

At Lowe, Schoonover was confronting an issue many global companies face: the need to match the agility of smaller competitors. "Clients want turnaround in a couple days with great ideas," he explains. "How do we — a large, multinational organization — respond against small, creative hot shops waiting to eat our lunch?"

For Lowe, software called Groove from Groove Networks Inc. in Beverly, Mass., is facilitating a swarming approach that enables quick collaboration among internal and external talent.

Groove gets around connectivity problems in Asia by chopping files into small pieces and sending them one at a time as the connection allows. That means high-bandwidth messages and



even video files, which previously often crashed in midtransmission, can be safely shared, Schoonover says.

Prospective clients have asked to see how the team space works, and they've been invited to come in by downloading free trial software from the Web. "They became something more than prospects — they became collaborators," Schoonover says, adding that swarm technology made the difference for at least two multinational client prospects who were concerned about Lowe's ability to communicate with talent around the world. After they saw swarming in action, they signed up as customers.

Clients' suppliers and other partners have also been brought into the collaboration space. "It makes it so much simpler to bring together a diverse group of minds," he says. Swarming has also saved on expenses such as international couriers, faxing and travel.

"It has paid for itself many times over in a half year," Schoonover says.

In fact, swarming technology saved the day when the SARS virus brought commerce in Hong Kong to a virtual halt. "We couldn't move — literally," he recalls. "I couldn't leave Hong Kong, and even in Hong Kong we couldn't see clients."

But real-time collaboration spaces linked clients in Hong Kong, subcon-

tractors in India and Taiwan, and headquarters executives in London. "SARS put the thumb screws on us, but [now] we realize we can get by without flying," Schoonover says.

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"We're connecting the right people faster, bringing them into the work stream, whoever they might be — company people or partners," says HP Services Chief Knowledge Officer Craig Samuel, who works from his home on the Isle of Bute off the coast of Scotland. "You have a sudden deadline, and people self-organize. We're getting proposals done faster and better."

Bridging, Mobilizing

At HP Services, thousands of workers who deal with partners and customers are hooked into the swarm. "We're bridging organizations, suppliers, distributors — even corporations," says Samuel. "We compete on some things and partner on others, and we can all mobilize in a common team space."

Samuel says the return on investment from swarming technology mostly comes from opportunities that would have been lost without it.

"What if you didn't get the \$1 billion contract because you couldn't find the people or mobilize fast enough?" he says. "That is a huge impact to the organization. The ROI is as good as anything we do in IT today."

While Cohen calls Groove the best-developed commercial application for swarming, he points out that there are other approaches, from Web tools to cell phones. David Malcolm, director of planning of Xilinx sports video games at Microsoft Corp., is using a Web tool from CompanyWay.com Inc. in Bellevue, Wash., to build a virtual customer advisory council consisting of about 120 hard-core sports video gamers around the country.

Because the group works around a central hub on the Web, it's not a true swarm, but it borrows from the swarming model to get quick and useful input from a varied group outside normal management controls. "This helps us to prioritize what's important during the early planning stages," Malcolm says. "That can save us up to a few months' [development time]."

As swarming catches on in business, it will bring management challenges along with opportunities, Cohen cautions. "If I'm a high-level manager and I've got a lot of people self-allocating to projects arising on the fly, keeping

Some Real-Life Swarms

A large financial services company swarms around cross-selling and up-selling opportunities. When a high-income individual applies for a mortgage, a signal goes out, and people from service areas such as private banking and insurance swarm to create a cohesive offering.

Community organizers spot a city councilman in the supermarket. They send out cell phone messages through a network of volunteers, and by the time he leaves, 25 people are waiting outside to ask him why the city's pollsters haven't been repaired.

A pharmaceutical company's acquisitions planner learns of a small biotech firm with a key new product.

He starts a swarm that soon grows to include experts in mergers and acquisitions, patent law, intellectual property, finance and more, who put together a successful bid for the company before the competition can even begin to organize.

Government and nongovernment agencies, including the U.S. Army, United Nations agencies and non-profit organizations such as CARE, use swarm technology throughout poster law to collect and prioritize data on sanitation, water, medical supplies and physical infrastructure as the first step in coordinating relief services.

Street demonstrators in Seattle used cell phone networks and dynamically updated Web sites to swarm and disrupt the World Trade Organization meeting in 1999.

Young people get their poses of friends to converge at the best party or club using cell phones and text messaging, according to *The Washington Post*. And "the royal hottie Prince William can't even go out for drinks with friends without being tracked electronically by a pack of wild women," *The Post* says.

—Kathleen Melnyuka

other things those people are doing on track starts to be a problem," he says. "Some conventional-style managers will be getting new gray hairs."

The solution will be increased communication, and a clear understanding throughout the ranks, of the organization's top priorities, Cohen says. Or as Samuel says, "You've got to give up a little control and trust your people."

Swarming enables collaboration beyond the organization in a way that hasn't been possible before, Samuel says, adding, "If you're going to be effective going forward, you're going to need this kind of capability."

Melnyuka is a Computerworld contributing writer. He can be contacted at kmelnyuka@yahoo.com.

Meeting OF THE Minds



co-author of *Harnessing Complexity* (Basic Books, 2000).

"A lot of people are betting that those [swarming] tools will enable more agile, quickly assembled, ad hoc collaborations of many kinds."

At Lowe, Schoonover was confronting an issue many global companies face: the need to match the agility of smaller competitors. "Clients want turnaround in a couple days with great ideas," he explains. "How do we — a large, multinational organization — respond against small, creative hot shops waiting to eat our lunch?"

For Lowe, software called Groove from Groove Networks Inc. in Beverly, Mass., is facilitating a swarming approach that enables quick collaboration among internal and external talent.

Groove gets around connectivity problems in Asia by chopping files into small pieces and sending them one at a time as the connection allows. That means high-bandwidth messages and

even video files, which previously often crashed in midtransmission, can be safely shared, Schoonover says.

Prospective clients have asked to see how the team space works, and they've been invited to come in by downloading free trial software from the Web. "They became something more than prospects — they became collaborators," Schoonover says, adding that swarm technology made the difference for at least two multinational client prospects who were concerned about Lowe's ability to communicate with talent around the world. After they saw swarming in action, they signed up as customers.

Clients' suppliers and other partners have also been brought into the collaboration space. "It makes it so much simpler to bring together a diverse group of minds," he says. Swarming has also saved on expenses such as international couriers, faxing and travel. "It has paid for itself many times over in a half year," Schoonover says.

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Mytymba is a Computerworld contributing writer. You can contact her at kmetymba@yahoo.com.

Some Real Life

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LAWYERS DON'T LIKE to look bad in court. They don't want to appear before the judge without the right documents, or worse, fail to show up at all because they didn't get a notice about a hearing.

But that used to happen frequently at the Clark County Courthouse in Las Vegas, which gets 40 to 50 legal motions each day from defense attorneys. The documents are supposed to be delivered to the right district attorney in time for court hearings, but sometimes they never arrived or were misrouted or sat in someone's in-box too long. Pleading ignorance, a district attorney would have to request a continuance (a deadline extension) from the judge.

"Our attorneys were embarrassed," says Lilly Burns, a legal secretary in the Specialty Unit for Vehicular Crimes. "By the time they'd get upstairs to the secretary, they were pretty angry and yelling, 'Why don't I know about this?' And as secretaries, we're sitting here saying, 'We weren't notified of it, let me go see if I can find the motion somewhere.'"

Chuck Thompson, the assistant district attorney who runs the courthouse office, asked IT manager John Beaird and his staff to find a better way to get documents to the right people in a timely fashion. They came back with a simple, low-cost and very creative solution to the decades-old problem, and now it's saving an estimated \$1 million per year in employees' time.

Beaird took one of the 10 Hewlett-Packard Co. 9900C document scanners in the office and gave it an entirely new job: managing the daily barrage of incoming documents.

Initially, Beaird planned to scan the paper documents and send digital versions to the right attorneys directly via e-mail. But then he figured out that the big files (some with as many as 200 pages) would bog down the e-mail server and add storage costs.

So, working with HP, Beaird instead used the 9900C's scan-to-share function, which performs two tasks. First, it allows searchable information about the document to be included in the header. And second, it turns the document into a PDF, which is stored in a shared area of the network.

At Clark County Courthouse, the process works this way:

- The incoming paper document is scanned and turned into a PDF.

- The PDF is posted on an internal Web server for easy access.

- Information about the document, usually the court and case number, is sent to a SQL database.



Court Motions GO DIGITAL

DAs once buried in paper never miss a hearing now that IT's on the case. By Jean Consilvio

■ An e-mail with a link to that PDF is sent to the appropriate district attorney or secretary.

"It definitely sounds like a good approach, because it's more efficient than, for example, if they were to fax them in and have someone on the other end do something with them," says Pat Turcio, an analyst at DocuSign Inc. in Chicago.

Unfortunately, that was about the way the old system worked. A courier would drop off a motion to the courthouse receptionist, who would put it in a mail basket. Twice a day, someone would pick up the documents in the basket and deliver them to the records desk, where a motion would sit for days because of the high volume, sometimes getting re-sorted from basket to basket. Eventually a clerk would

go through the filings, determine the court date and forward it to the appropriate — or inappropriate — secretary or attorney. But because secretaries, clerks and attorneys rotate jobs, a motion could sit in someone's mailbox for another day or two before that person realized that it was there or that it was meant for a different department.

"It was horrendous," Burns says. "We now get instantaneous service, and it goes to the right people. The time saving is incredible, and with today's budget crunches, time is invaluable to us."

"It's a matter of moving paper from Point A to Point B," Beaird says. The bottom line is that scanning, storing and forwarding the documents is much more efficient. Runners (and their \$25 per hour fees) are virtually no longer needed, clerks no longer sort piles of documents, and secretaries don't have to leave their desks to hunt for misshelved documents.

Add to that the estimated long-term asset savings of extending the traditional three-year equipment replacement cycle to a four- or five-year cycle, and the return on investment becomes more significant. Beaird says he expects the 9900C will last longer because it's a stand-alone appliance that has been extremely reliable and has yet to need service. "We basically said, 'Let's stop here, these savings are more than substantial to justify the cost of these [\$3,000] devices,'" he says.

But there are also greater immeasurable labor savings beyond the \$1 million. For example, prison guards spend less time escorting prisoners back and forth from jail to court, prosecution and defense attorneys make fewer redundant court appearances, judges spend less time on the bench, and clerks spend less time documenting hearings.

"Then there's the number we can't come up with, which is buying back credibility," Beaird says. If a motion came through the old system and the court didn't know about it in time, the district attorney would have to ask for a continuance and risk losing the motion. "But more important," he says, "was having the victim's families and friends behind us seeing us unprepared."

The courthouse files thousands of criminal cases every year. And with 85 lawyers in the criminal division alone, a lot of time is wasted when a continuance is granted. "I think we're doing a better job for the public," says Thompson. "They probably don't know it, but don't appreciate, but that's OK." ■

Clark County Courthouse

PROBLEM: Improve the workflow for processing the 13,000-plus pleadings served to the courthouse annually.

SOLUTION: One HP 9900C digital scanner was modified to create and send large PDF files on a Web server. **Cost:** \$3,000. **Life expectancy:** Five years.

RESULT: An estimated \$1 million per year savings in labor, and no missed court dates since project was completed about eight months ago.

TECHNOLOGY: 35 servers maintained by one IT worker; 600-plus users with PCs serviced by 12 people on the help desk; also Web site, database and intranet.

TOTAL IT STAFF: 24 people.

TOTAL AREA SERVED: 15 criminal district courts, 6 justice courts, 12 offspring courts.



WHO'S Changing The Rules?

New software lets business people alter the business logic in IT applications. But is this a good idea? By Bob Violino

BUSINESS RULES are becoming unwieldy, as frequent changes in the marketplace and new regulations create more complexity. Some companies are turning to business rules management software, which organizes the process of implementing code changes and even lets business people make those changes, freeing up IT to work on more strategic initiatives.

While that sounds like good news for hard-pressed IT departments, there are potential dangers to letting business managers and other nontechnical people tinker with the insides of key information systems.

Business rules are the business logic built into systems. They describe core policies and operations and define what can and can't be done for processes such as marketing, sales, distribution or billing. A company's marketing strategy, pricing plan and administrative policies are examples of processes that include business rules.

Rules management software is changing the way companies handle revisions to the rules inside applications. Bob Parker, an analyst at AMR Research Inc., says enabling business people to make rules changes gives companies more flexibility. For example, he says, if an air-conditioner manufacturer wants to reconfigure its product design, pricing or service, the company doesn't have to rely on IT to make the business rules changes, because a manufacturing or salesperson can do it. "You not only free up IT resources, you gain flexibility to respond to changes faster," Parker says. "It's been a big hurdle for companies to change rules in response to market conditions."

CitiStreet in Quincy, Mass., a global benefits services provider owned by Citigroup and State Street Corp., is using iRules from Illog Inc. in Mountain View, Calif., to make rules changes in its benefits plan administration system. The proprietary application runs on Sun Solaris and HP-UX platforms.

iRules manages thousands of business rules related to client policies, government regulations and customer preferences. Previously, business analysts wrote requirements, designers created documents based on the requirements, and IT developers did the coding. But now analysts use iRules to create or change rules, without help from developers, says Andy Marsh, CitiStreet's CIO. "We've effectively eliminated the detail design function and 80% of the development function," says Marsh. IT is involved in managing the systems and platforms, but it's less involved in rules management, he says.

The software helps speed processes. For example, it used to take CitiStreet six months to set up benefit plan calculations for clients; it now takes three months, says Marsh.

CitiStreet can also react more quickly to market changes and new regulations. It has used the software to accommodate changes in pension and 401(k) programs required by the Economic Growth and Tax Relief Reconciliation Act. And when a client recently adopted a cash-balance plan in its benefits program, CitiStreet was able to more easily implement changes with iRules, says Marsh.

More Options for IT

But companies with IT departments that still handle rules coding are also benefiting from using business rules software. Alfa Insurance Group in Montgomery, Ala., uses Computer Associates International Inc.'s CleverPath Aion Business Rules Expert for an automobile insurance underwriting system. A rules process change that typically took five or six days now takes about 30 minutes, says David Seay, systems manager. Although the application is used by sales representatives to provide quotes and submit applications, most of the rules changes are done by programmers.

The Los Angeles County Metropolitan Transportation Authority (MTA) is using AppRules from Logical Apps Inc. in Irvine, Calif., to change rules settings for Oracle applications. IT manager Vincent Tee says the MTA uses the software primarily to abide by procurement regulations set by the Federal Transit Administration, its largest funder. AppRules has slashed the average time it takes to make rules changes from three hours to 40 minutes—and paid for itself within six months, Tee says.

"A sophisticated [business user] who knows the system could make the changes," Tee says, but IT usually does

Have you ever heard of a nontechnical business manager who writes or changes business rules?

That's what business managers do that they don't want to be called "business analysts" or "programmers."

To fast-track implementation of business rules, you need a software tool that lets business managers make changes to rules.

Imagine that in a matter of minutes you can define, add, modify, change or delete rules. It just should be the way.

it because of "change-control" policies.

In fact, some experts suggest using caution in letting business users make systems changes. "You have to make sure the appropriate levels of authority are maintained," says AMR's Parker. "You don't want Billy who's just been hired out of college deciding that if it's a pretty girl ordering a product, you give a 50% discount. An entitlement process has to be put in place as soon as you allow this to be decentralized." Parker says IT should be responsible for deciding who can make changes.

"It will be very interesting to see just how much of a free hand in setting business policy companies will ever be willing to give users," says Ronald Ross, principal at Business Rule Solutions LLC, a Houston-based business rules services firm. "The appropriate roles and responsibilities need to be thought out very carefully."

IT managers say the technology has potential downsides. Marsh says there could be greater risk of errors in programs with nontechnical people making the changes. "The way [for IT] to mitigate that is to have a test bed to run the rule set against to make sure you haven't introduced unforeseen problems," he says.

Still, rules management software is expected to play a major role in helping companies adapt quickly to business and regulatory changes.

"Some very large clients are reporting several orders of magnitude improvement in the cost of implementing significant change in business practices," says Ross. "Rule management platforms are a solid technology whose time has arrived."

Violino is a freelance writer in Massapequa Park, N.Y. He can be reached at bviolino@qptonline.net.



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levels that meet your business requirements.

HP recommends Microsoft® Windows® XP Professional for Mobile Computing.



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It's a Telecom Buyer's Market

Hundreds of pages of complex telecommunications bills land on the desk of some overworked IT staffer every month. And if they "look normal," they get paid. But auditors say those bills are full of mistakes that typically result in overcharges of 5% to 30%. Meanwhile, many users fail to get the best terms in their telecommunications contracts. At a time when cost reduction is king and the telecom industry is in turmoil, Mitch Betts asked **MISSY SUE MASTEL**, author of *Telecom Audit* (McGraw-Hill, 2003), what IT managers should do.

These are tough times in the telecommunications industry. Is now a good time to renegotiate long-distance telecom contracts? Yes. You want to improve not just your rates but the terms and conditions, too. Your contracts were probably negotiated during the economic glory days,



and some don't have clauses for business downturns or rightsizing or billing verification. You may be able to get more competitive rates ... but the rates aren't really where (the telecom carriers) get you. Where they get you is in fees and surcharges. Some carriers have significantly higher fees or surcharges for ordering an 800 line, for example; it may be free with one carrier and \$50 a month at another.

Are too many contracts left in the filing cabinet unexamined? Yes, indeed. Companies may think it's someone's job to pull the contract out and take a look at it, but given the [staff] downsizing today, there's not time to actually do it. The contract could be 90 pages. And the bills could be 1,000 pages for a \$30,000-per-month customer.

You should negotiate into your contract a period of review. And you should negotiate billing verification into the contract, so you're not spending an average of 16 to 21 months to get credits back for overcharges. It should be a much shorter period of time. You should expect the carrier to provide accurate billing practices and, if not, they should correct it within 30 to 60 days.

And you should be reviewing your bills and comparing them to your contract terms once every quarter, if not more. Sometimes the rates and terms listed in the contract don't actually show up on the bill.

What are some common billing mistakes? "Casual billing" is the worst. Long-distance carriers can lose track of phone numbers and instead of billing the call under the corporate contract,

happens: it's human error if they don't properly enter the disconnect order so it shows up in the billing system. But get this: Sometimes they disconnect only one point of a two-point circuit. So you could still be charged for the other point, perhaps at an office you've closed.

What are the best money-saving strategies, the low-hanging fruit? Billing increments. Any time you can reduce your billing increment, say, from one-minute billing to a six-second increment, you save about 30% on the usage portion of your bill. If you have a three-minute conversation and your rate is 5 cents a minute, you pay 15 cents. The problem is that even if you talk two minutes and one second, you're still billed for three minutes and still paying 15 cents for that call. If you're billed at six-second increments, you're only paying about 11 cents.

In addition, there are about 12,000 taxes from different jurisdictions that apply to telecommunications, and the carriers have a tough time dealing with it. The laws are incredibly ambiguous, and we've been successful interpreting the law in favor of our [corporate] clients. For example, the federal excise tax covers toll service [typically voice service], but it shouldn't really apply to networks that aren't toll service. So most data networks where you're just paying for bandwidth, not usage — shouldn't have the federal excise tax applied. Yet it happens all the time.

Are companies starting to get better control over their wireless costs, or is it still Wild West out there? Even if they are getting it under control, it will all change in November. Cellular number portability is coming out Thanksgiving. And it's going to be an absolute madhouse.

The carriers will do just about anything to get customers to sign a contract so they don't leave them in November. The carriers are all terrified. If you're renegotiating a contract, you can pin them to the wall. Customers have a lot of leverage, so take advantage of that to get free equipment or upgrades to your equipment in a multi-year contract.

Do you expect to see more consolidation in the telecom industry? Yes, there will be more bankruptcies, among smaller players. I expect to see price increases for another 12 to 15 months, but then I believe the FCC clamp down on pricing and make the carriers reduce their fees and surcharges. ■



It falls off the contract and gets billed at astronomical rates by the local carrier. It happens to large corporate customers a lot, unfortunately. It's a billing system error.

The billing systems are incredibly complex, full of interfaces and patches to deal with new features and services. Most large phone companies have computer systems that are 10 to 15 years old, and they lose track of things. The phone companies invest in patches but not in overhauling the systems.

I've also heard reports that you can disconnect a service, such as a T1 line, but it can still show up on the bill. That certainly



It's a Telecom Buyer's Market

A telecom auditor says now is a good time to negotiate better terms in your wired and wireless contracts.

Hundreds of pages of complex telecommunications bills land on the desk of some overworked IT staffer every month. And if they "look normal," they get paid. But auditors say those bills are full of mistakes that typically result in overcharges of 5% to 35%. Meanwhile, many users fail to get the best terms in their telecommunications contracts. At a time when cost reduction is king and the telecom industry is in turmoil, Mitch Betts asked **MISBY SUE MASTEL**, author of *Telecom Audit* (McGraw-Hill, 2003), what IT managers should do.

These are tough times in the telecommunications industry. Is now a good time to renegotiate long-distance telecom contracts? Yes. You want to improve not just your rates but the terms and conditions, too. Your contracts were probably negotiated during the economic glory days,



and some don't have clauses for business downturns or rightsizing or billing verification. You may be able to get more competitive rates... but the rates aren't really where [the telecom carrier] get you. Where they get you is in fees and surcharges. Some carriers have significantly higher fees or surcharges for ordering an 800 line, for example; it may be free with one carrier and \$30 a month at another.

Are too many contracts left in the filing cabinet unexamined? Yes, indeed. Companies may think it's someone's job to pull the contract out and take a look at it, but given the [staff] downsizing today, there's not time to actually do it. The contract could be 90 pages. And the bills could be 1,100 pages for a \$30,000-per-month customer.

You should negotiate into your contract a period of review. And you should negotiate billing verification into the contract, so you're not spending an average of 18 to 21 months to get credits back for overcharges. It should be a much shorter period of time. You should expect the carrier to provide accurate billing practices and, if not, they should correct it within 30 to 60 days.

And you should be reviewing your rates and comparing them to your competitors once every quarter, if not more often. Sometimes the rates and terms stated in the contract don't actually show up on the bill.

What are some common billing mistakes?

"Casual billing" is the worst. Long-distance carriers can lose track of phone numbers and instead of billing the call under the corporate contract,



it falls off the contract and gets billed at astronomical rates by the local carrier. It happens to large corporate customers a lot, unfortunately. It's a billing system error.

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I've also heard reports that you can disconnect a service, such as a T1 line, but it can still show up on the bill. That certainly

happens; it's human error if they don't properly enter the disconnect order so it shows up in the billing system. But get this: Sometimes they disconnect only one point of a two-point circuit. So you could still be charged for the other point, perhaps at an office you've closed.

What are the best money-saving strategies, the low-hanging fruit? Billing increments. Any time you can reduce your billing increment, say, from one-minute billing to a six-second increment, you save about 30% on the usage portion of your bill. If you have a three-minute conversation and your rate is 5 cents a minute, you pay 15 cents. The problem is that even if you talk two minutes and one second, you're still billed for three minutes and still paying 15 cents for that call. If you're billed at six-second increments, you're only paying about 11 cents.

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BRIEFS

Swan Starts as CTO At Millman USA



David B. Swan last month began working as chief technology officer at Millman USA Inc., a Seattle-based consulting and accounting firm. His ex-

perience is in IT management and strategically applying technology to the services of health care and finance. Swan has worked for years as a technology executive and consultant at various companies. He most recently was CTO and chief operations officer at HealthTix Interactive, a direct-to-consumer pharmaceutical marketing company. Swan also held positions at E-call Data Corp., Cambridge Technology Partners Inc. and Group Health Inc., and he spent 10 years at Deloitte & Touche LLP.

Sarbanes-Oxley Seen as Big IT Cost

In a June survey of 890 IT executives and chief financial officers, 77% of respondents said they believe that Section 404 is the most critical part of the Sarbanes-Oxley Act. Section 404 requires business-process audits and documentation to support internal controls certification of public companies. The survey was sponsored by PricewaterhouseCoopers Inc. and Business Finance magazine, and the data was analyzed by Meta Group Inc.

And while companies are still coming to grips with the IT costs of complying with Sarbanes-Oxley, estimates seem to vary widely.

■ The U.S. Securities and Exchange Commission estimates that internal controls provisions will cost companies each year an average of 2.8 million work hours and \$487 million for outside professionals — which adds up to approximately \$1.24 billion.

■ A recent Financial Executives International survey of 83 members found that companies are planning to commit an average of 6,700 work hours and \$480,000 on software, employee training and consulting this year.

Swiss Trains and Service Metrics

MERIT SMITH

I DON'T LIKE the idea of hyphenated Americans. But the fact is my wife is a second-generation Swiss-American. And I never understood how deep and subtle her family's Swissness was until she and I traveled with her parents to Switzerland to visit their home villages.

One of the important things I learned about the Swiss is that they have a different concept of time than

North Americans do. I guess we should expect some time weirdness from people who build clocks and watches. But in Switzerland, time is different than it is in the U.S.

I first realized this as we took the morning train from Zurich to Interlaken. The train was scheduled to leave at 8:03. I was standing in the train, arranging baggage, and looked out the window at the clock on the train platform. Just as the clock hit 8:03, the train began to move. I wondered, "Wow: How did they do that?"

Over several weeks, I realized that there wasn't any special trick with the clock and the train. It was just the Swiss concept of time, which seems to work something like this: Time is important. We accurately measure time. Accurate measurement of time lets us plan when things will happen. Everyone knows what time it is.

Things happen when they're scheduled. This isn't special. This is as it should be. This is Swiss time.

Being an American traveler, I have a different concept of time and transportation. When I think of my typical travel experience with American, United or Delta, I realize that the air-



line and I may be in the same time zone, but we seem to be using different concepts of time. They measure it in funny ways. They conceal it. Their idea of time is just about the opposite of what my idea of time is. They focus on on-time departure, while I hope for on-time arrival.

To look good on this service measure, they play tricks. On-time departure can often mean "push the plane back from the gate on time, sit in the plane at the gate for a while, then actually take off and get to the destination, but late."

My company frequently works with health care organizations that have substantial service, cost and quality problems. In nearly every one of these engagements, confusion about time is a major part of the problem. The first step in moving forward is to help our client managers understand that they and their clients may have different concepts of time. And that if they align themselves to the client's concept of time, they have made a huge step toward improving service.

This sounds simple, almost trivial. "Of course we consider time that way, but the reality is that most of our measure-

ments and statistics about time are from a producer's point of view, not from the consumer's."

Think about time measurement in a call center. Because call centers manage "production" by tracking metrics such as how quickly a call is answered, the average amount of time spent on a call, and after-call work, it's hard for them to understand that the caller has a different experience. The caller experiences "wait" and "talk." The customer service representative thinks, "It was a two-and-a-half-minute call. Good call, good service." The caller knows the call combined with the wait took almost five minutes. "That wasn't good service. In fact, why did I have to call them in the first place?"

It's the same event, but with two different time experiences. Call center managers can prove that they're providing good service, but their customers don't think that they're receiving good service.

Look at the metrics and measure your service organization uses. Do they reflect the customer's experience of time? "Ninety-five percent of calls answered in 30 seconds." Why am I always in the other 5%? "Ninety-eight percent of clean claims paid in 30 days." It was clean when I sent it in. Does that 30 days start when I sent it and end when I get it back? Is it calendar days or workdays?

Here is the hard fact of service management: I can't deliver high-quality service if I measure my experience rather than my customer's experience. I just have to understand that it's the customer's measurement of time that counts. And I don't need a Swiss watch to do that. ■

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FRANK HAYES • FRANKLY SPEAKING

SCO's Shell Game

TRYING TO MAKE SENSE of The SCO Group's threat last week to sue any Linux user who doesn't buy a Unix license? (See story, Page One.) Forget the threat. Instead, look at the announcement SCO made the following day — the one in which SCO said it's now in the Web services business thanks to its acquisition of Vultus Inc.

And how did SCO buy Vultus? With newly issued SCO stock, of course — stock whose price gets a boost every time the company makes yet another wild claim about who it will sue next.

Actually, the Vultus deal is a lot more complicated than that. You wouldn't know it from what SCO said last week, but SCO has finally found a way to make money — literally.

No, not from its attempts to sell Unix licenses to Linux vendors and users. Since January, when SCO started trying to get Linux types to cough up some cash, the company has sued IBM, sent threatening letters to nearly 1,500 big companies, tried to revoke IBM's license to sell Unix and threatened dearly that if someone didn't start buying Unix licenses soon, it would sue Linux Torvalds. None of that seems to have sold many Unix licenses.

But every time SCO makes a new, wilder set of legal threats, speculators bid up the price of SCO stock — starting in March, with the IBM lawsuit, then in May, when the threatening letters were sent, then again in June, when SCO tried to make IBM users pull the plug, and again last week. SCO's stock price is now about 10 times what it was six months ago.

Pretty impressive, eh? Especially for a company with no serious hope of getting cash flow from any of these threats for years.

None of the threats make legal sense. If they did, SCO would be able to get an injunction to shut down Linux users. In practice, SCO hasn't even been able to get an injunction against IBM and won't get a court hearing on its request to do that until 2005.

Meanwhile, a German court told SCO in June that it must stop threatening Linux users. And an Australian government agency is looking into charges that Linux users must buy a license that they don't actually need.

And SCO's tactics don't make business sense, either. SCO is a soft-

ware company that has slashed its R&D budget, alienated its customers and demolished the value of its brand. That's not the way you build a business.

So, what do you do when you have no real business but your stock price keeps going up? We all learned that lesson during the dot-com bubble: You use that stock as currency.

That brings us back to Vultus, which was majority-owned by The Canopy Group, former Novell boss Ray Noorda's personal investment fund. And Canopy — surprise! — also controls SCO, as well as some 30 other small companies.

Last week, SCO didn't disclose much information about the deal. But in fact, the details were already on the record in SCO's recent filings with the SEC.

It turns out SCO didn't simply use stock to buy another company. SCO printed up about \$3 million in new stock. Then, in the complicated deal in which SCO acquired Vultus, the stock was cashed out, with most of the proceeds going to Canopy.

Some went to Canopy as a Vultus shareholder; the rest went to Canopy as compensation for taking on Vultus' debt, some of which was presumably owed to Canopy.

Got all that? If it sounds like a shell game, well, that's the way Canopy likes to move its companies around. But in effect, Canopy used SCO's stock price, boosted by SCO's Linux threats, to rake in a couple of million dollars in cash behind the scenes.

And apparently it worked.

Which means we can expect that as long as Canopy can find ways of cashing in on SCO's threats against Linux users, those threats will keep coming — no matter how little sense they make. ■



Frank Hayes, Computerworld's senior news columnist, has covered IT for more than 20 years. Contact him at frank.hayes@computerworld.com.

The Vendor Way

Consultant pilot fish spends weeks working with a vendor team to get a complex backup process for the customer's new HP/Novell system up and running. Backup finally works, and fish asks the manager in the vendor team when they can start on the restore test. "Features of the backup image is not part of our offering," manager shrugs. "We only back it up."

Realbook
Programmer
pilot fish for a
big software
vendor gets a

**SHARK
TANK**

gratuitous notes
are buried in the
body copy—
"shark," "and the

notes from his group
leader about a bug. "This
bug will not be allowed
into the [big customer's]
browser." So that means
the customer's code
won't have the bug,
right? Wrong. "What I
actually meant was, 'The
fix for this bug is not
going to be put into the big
customer's updated version
of the software.'"

Again fish. "This browser
bug is certainly the
necessary way of obtaining
within the group, but it
probably isn't a great idea
for the SCO 0000 software
to use and have this."

Redundant
A business variable's value
is either true or false
— that's what Boolean
means, notes a database
pilot fish struggling with
an vendor's, uh, our
current version of SQL.

"In their version," she
says, "a Boolean variable
can have one of
three values: true, false
and unknown."

Scratchy Logical
This IT client's migration
to a product's new version
has stalled because
the tech team needs
more details on how to
migrate, says a pilot fish
on the team. "The sit-

ing system can be
shaved only after re-
installing the product."

Change of Plans
Pilot fish receives a pre-
sentation showing the focus
a consultant who used a
customer's value of the
software this time. When
fish asks to sign it, he
gets an angry response:

"To sign this file, you
need a contract. But
you are dissatisfied from
our 'this file.' Fish shrugs.

"No," said in return to
a Web page that explains
this. "You are obligated
to document a file over-
writer. Unfortunately,
the customer does not
want, and there are no
plans to develop one."

Oh No No No!
Phone system administrator
pilot fish reports a
problem he resolved. The
user's comment to the sys-
tem recently for monitor-
ing and maintenance.

Help desk: "Plus, a tech-
nician will remove from
your system and fix the
problem." Pilot: But I'm
reporting that we can't
remove it. Help desk:

"Yes, that's on the list-
it. I'll give it to the tech
and he'll remove from
your system and fix the
problem."

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